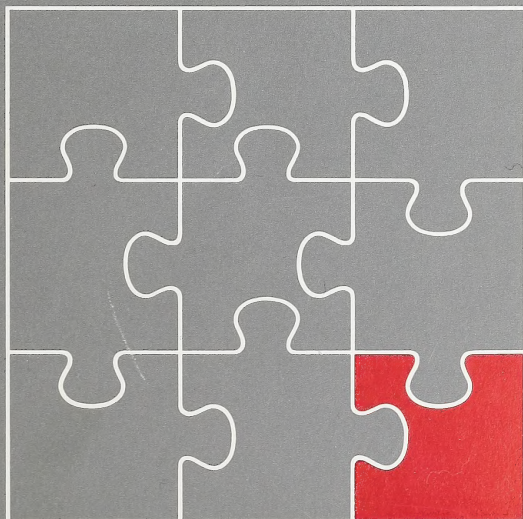

LEARNING DISABILITIES

A Resource Manual
for Teachers

Alberta

EDUCATION
Special Education Services



Acknowledgements

The Special Educational Services Branch of Alberta Education acknowledges the following for their efforts in the preparation of the manual:

The Members of the Advisory Committee whose support, tolerance, understanding, helpful suggestions, energy, and strength as a team facilitated the production of this document and provided a deeper appreciation and respect for the divergent views that abound relative to learning disabilities. Committee members were:

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Mulcahy and Associates (Dr. R. Mulcahy, Dr. H. Janzen, Dr. H. Zingle, and Dr. J. Lupart) who as contractors provide a host of draft versions, readily accepted extensive feedback, and constantly incorporated suggestions to help produce this edition.

Mulcahy and Associates acknowledge the voluntary support of the following people in the revisions to the first draft of the manual.

J. Andrews, Teacher - Ph. D. student at the University of Alberta. Winner of the first Siobhan Reid Memorial Scholarship.

C. French, Teacher and Psychologist - Ph.D. student at the University of Alberta.

B. Maicher, Psychologist and Past President of the Alberta Association for Children and Adults with Learning Disabilities

J. Morrison, Teacher, County of Wetaskiwin.

The word processing operators who prepared many revisions to this manual.

The many educators who officially and unofficially took the time to use, review, and comment on the field-test edition of this manual.

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Placement Alternatives for Students with Special Educational Needs

The policy statement, *Secondary Education in Alberta*, issued by the Alberta government in 1985, stresses the importance of integrating students having special educational needs with non-disabled students, whenever possible. This practice is termed 'mainstreaming.' Many educators, parents, and students viewed the previous reliance on the use of self-contained or segregated programs to serve students having special educational needs as undesirable. Thus, strong pressure to integrate or mainstream educationally disabled and gifted and talented students into the regular school program has developed.

For students having special educational needs that require more support or protection than can be provided in a regular school program, a series of fully or semi-segregated classroom options has had to be retained.

Maynard Reynolds and Evelyn Deno pioneered the use of the Cascade Model to illustrate the range of service delivery methods appropriate to provide programs for all students having special educational needs. The version included here is modified to reflect the Alberta situation and appears in the Special Education Program of Studies for Alberta.

The Alberta Education position on the delivery of special education is summarized in this set of statements:

1. Students having special needs will have those needs served.
2. Where possible, students with special educational needs will be served in the regular school setting — mainstreamed.
3. Some special needs students may require a protected educational setting for at least part of their educational career. Whenever it is in the students' best interests, this setting will be considered valid as part of the range of services to be provided.
4. Whenever it is in the best interests of the special needs students, they will be moved from a more protected educational setting to a less protected class placement.

The Cascade Service Delivery Model identifies the relative degree of protection offered by various placement options, the educator who is directly responsible for the individual program and the progress of the special needs student, and the special resources and support services required to make each option effective.

The Cascade Model suggests the relative population of special needs students likely to be found at each level of service delivery. The widest bar at the top represents the largest number of special needs students, those integrated or mainstreamed fully into regular classes. The next bar represents students receiving some form of assistance external to the classroom. The ratio between adults and students becomes smaller as one moves "down" the model, because the severity of the students' problems tends to make greater support and protection necessary. The model also reflects this diminishing ratio of adults to students as the intensity of the special needs increases.

One objective of the special education assessment is to determine what placement will best serve the student having special needs. A vital objective of the special education instructional program is to assist the special needs student to move "up" to a less protective setting, when it is in the student's best interests.

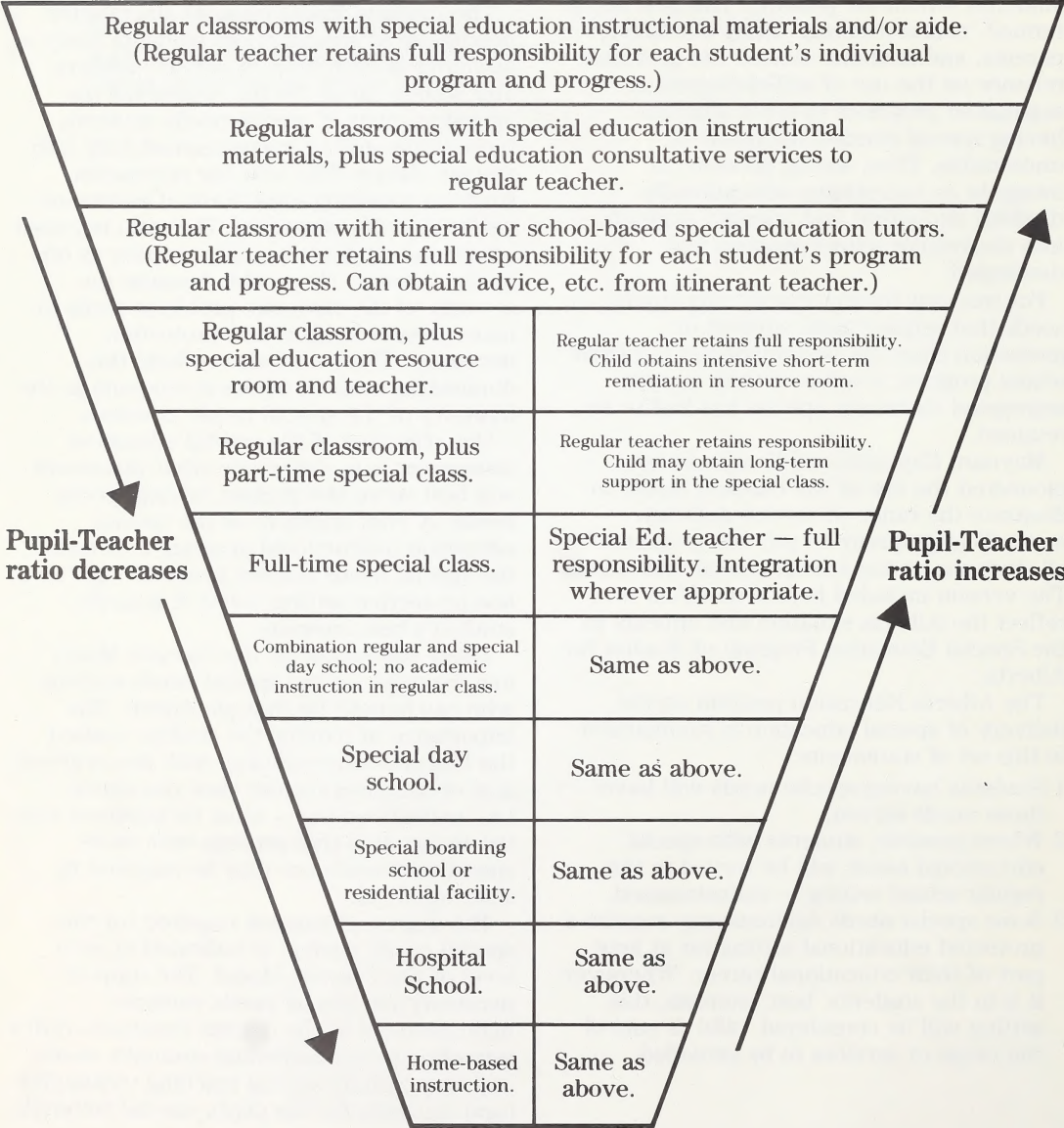
Every placement on the Cascade Model may be valid for the special needs student who can benefit by that placement. The importance of moving the student toward the less protective settings with the eventual goal of attaining regular class placement — i.e., mainstreaming — must be balanced with the recognition that settings with more specialized assistance may be required by some students.

The degree of support required for the special needs student is indicated at each level of the Cascade Model. The support necessary for special needs students mainstreamed in the regular classroom varies according to the individual student's needs and may include special teaching techniques (oral concepts for the deaf), special materials

(sound recording for the paralyzed, braille textbooks for the blind), and additional personnel (consultant for the behaviorally disordered, teacher aide, interpreter for the deaf), or a lower student-teacher ratio. The mainstreamed student is placed in jeopardy when required extra support is not provided.

In order for the special needs student to be integrated appropriately into the regular classroom, the student must be able to cope intellectually, socially, and emotionally, with a fair degree of success, with the learning and other activities being carried out by the other students in the classroom.

Cascade Service Delivery Model



Possible Uses of the Manual

It is recommended that all users read Chapters I, II, and V. Each chapter starts with a list of contents.

Example 1

Classroom Teacher

If a teacher has a student who is demonstrating perplexing problems but has not been identified as learning disabled, the teacher could use the procedures given in this manual to help discern whether the problems are significant enough for referral to a specialist, or whether they can be dealt with adequately in the classroom. (See Chapters I, III, and V.)

Example 2

Classroom Teacher

If a teacher has a student enrolled in his or her classroom who has been identified as learning disabled, the teacher could use this manual to locate information on informal assessment and programming in a particular content area such as mathematics. (Each of the sections on intervention in Chapter IV are relatively self-contained.) The teacher could use the information to assess and prepare a program for the student.

Example 3

Special Education Teacher

The special education teacher may find this manual useful as a resource for further assessment and intervention with learning disabled students. In this case, the best use of this manual would be in conjunction with the *Materials Resources Handbook* published by Special Educational Services, Alberta Education. (Chapters I, III, and IV are particularly relevant.)

Example 4

Administration

The administrator can use the manual to obtain information about systematizing service delivery for the learning disabled student, both within the school and the school district in terms of referral, assessment, placement, and evaluation. (See Chapters I, III, and V.)

Example 5

School Psychologists

The school psychologist may find Chapters I, III, IV, and V helpful in following up on psycho-educational evaluations.

Example 6

A High School Teacher

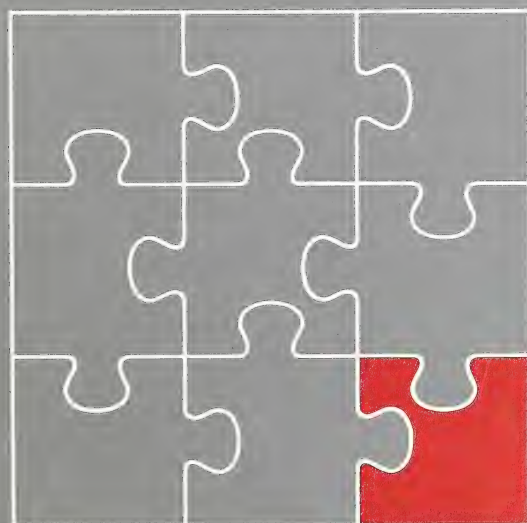
If a high school teacher has a student who is experiencing difficulty in reading, the teacher could use the procedures outlined in the chapter on program development, as well as suggestions in the sections on reading and on teaching the learning disabled adolescent.

Example 7

All Teachers

The teacher who is concerned about communication with parents would find Chapter V particularly relevant.

Introduction



Introduction

For some time, the education of students who have been identified as “learning disabled” has been a focal point for teachers, parents, and other professionals. These perplexing youngsters have often been called “lazy”, “unmotivated”, “stubborn”, or just plain “dumb”. This is NOT the case. These students have specific problems in learning, often for unknown reasons.

This manual has been developed for these students, their teachers, and others who work directly with them in providing a comprehensive educational experience.

The primary focus is the teacher in the regular classroom. One of the aims of the manual is to help teachers understand and teach the learning disabled student. The information will also be valuable to special education teachers, educational psychologists, counsellors, administrators, and all other members of the educational team.

The philosophy inherent in the manual is that a continuum of program, service, and placement options is required to meet the needs of learning disabled students. As well, a partnership among the home, school, community, and student enhances the probability of success with any student, and particularly with a learning disabled student. The regular classroom teacher, who is a key partner in this process, should have a range of support mechanisms available.

Possible areas of involvement for the teacher include early identification, referral, communication with parents, and evaluation. Teachers can also assist in making decisions about program changes, monitoring the effectiveness of altered programs, making decisions about placement, and monitoring the success of new placements.

The manual provides relevant information about the above-mentioned areas of involvement and about intervention strategies to students and to teachers of all grade levels. Also, because so little is documented with regard to the adolescent learning disabled student, a special section on this subject has been added.

This manual is not a training manual or a curriculum guide, nor is it intended to argue for or against the provision of specialized settings or particular approaches such as mainstreaming. The manual reflects Alberta Education’s position on program planning; namely, that such planning be based on identified and verified student strengths and needs. Also, the “whole child”, both cognitive and affective dimensions, is emphasized throughout the document.

The manual is by no means exhaustive. Readers are encouraged to examine additional sources such as textbooks, learning disability journals, and other publications. A brief listing of resources follows each chapter.

Premises

The information in this document is based on five premises:

1. In every classroom there may be a number of students who do not fully benefit from the regular program of instruction because of a learning disability.
2. There should be a team approach to diagnosing and teaching the learning disabled. The team approach should also apply to ongoing assessment and instructional modification.
3. The instructional process for these children should be modified to varying degrees, depending on the particular needs of the student. Team members should take a dynamic interactive approach to instruction.
4. When the instruction process is modified, team members should consider the total child, including both the cognitive and affective domain.
5. Because of the multifaceted nature of learning problems, there should be an eclectic approach to teaching learning disabled students.

Overview

The Introduction provides a comprehensive overview of what kind of problems a learning disabled student may have.

Chapter II discusses the nature of self-concept and its relationship to learning, and how the self-concept of the learning disabled student may be enhanced — a most important consideration.

Chapter III provides detailed information regarding student program development, advocating a team approach to the tasks of identification, verification, program development, placement, and evaluation.

Team members include:

Core Team	Others
student classroom teacher special education teacher principal parents counsellor educational psychologist reading specialist curriculum specialist	medical speech and language pathologist physiotherapist others, e.g., occupational therapist

Chapter IV suggests techniques, strategies, procedures, and guidelines to be used in the instructional process. This chapter begins with major instructional considerations that teachers should keep in mind. Then brief descriptions of four general approaches to teaching are provided. Each part of this chapter advocates a “test-teach-test” format. Each section opens with information on formal and informal assessment procedures for a particular content area, followed by general and specific intervention procedures.

The instructional process is stressed as well in Chapter IV. Each content section presents information regarding both elementary and secondary level assessment and programming. In addition, Section 8 presents information specifically for teachers working

with adolescents. Content sections cover reading, spelling, writing, language, mathematics, and social skills.

Any instructional decision at any level involves planning, organizing, and monitoring both the approach and the student’s performance in the academic and social domains. The sections on intervention procedures are written with this in mind.

Ongoing monitoring and evaluation cannot be overemphasized. This goal is probably best accomplished when the child, parent, teacher, and other team members communicate on a regular basis throughout the school year regarding the effectiveness of the instructional process. The frequency of this communication will depend on the specific situation.

It is important to remember that “learning disability” is a generic term encompassing a variety of problems in such areas as writing, social skills, spelling, reading, and mathematics. The severity of the disability can vary considerably. The educational team must determine the most appropriate type of instruction for each child. It is acknowledged that this decision may be influenced by the resources of the school and the community.

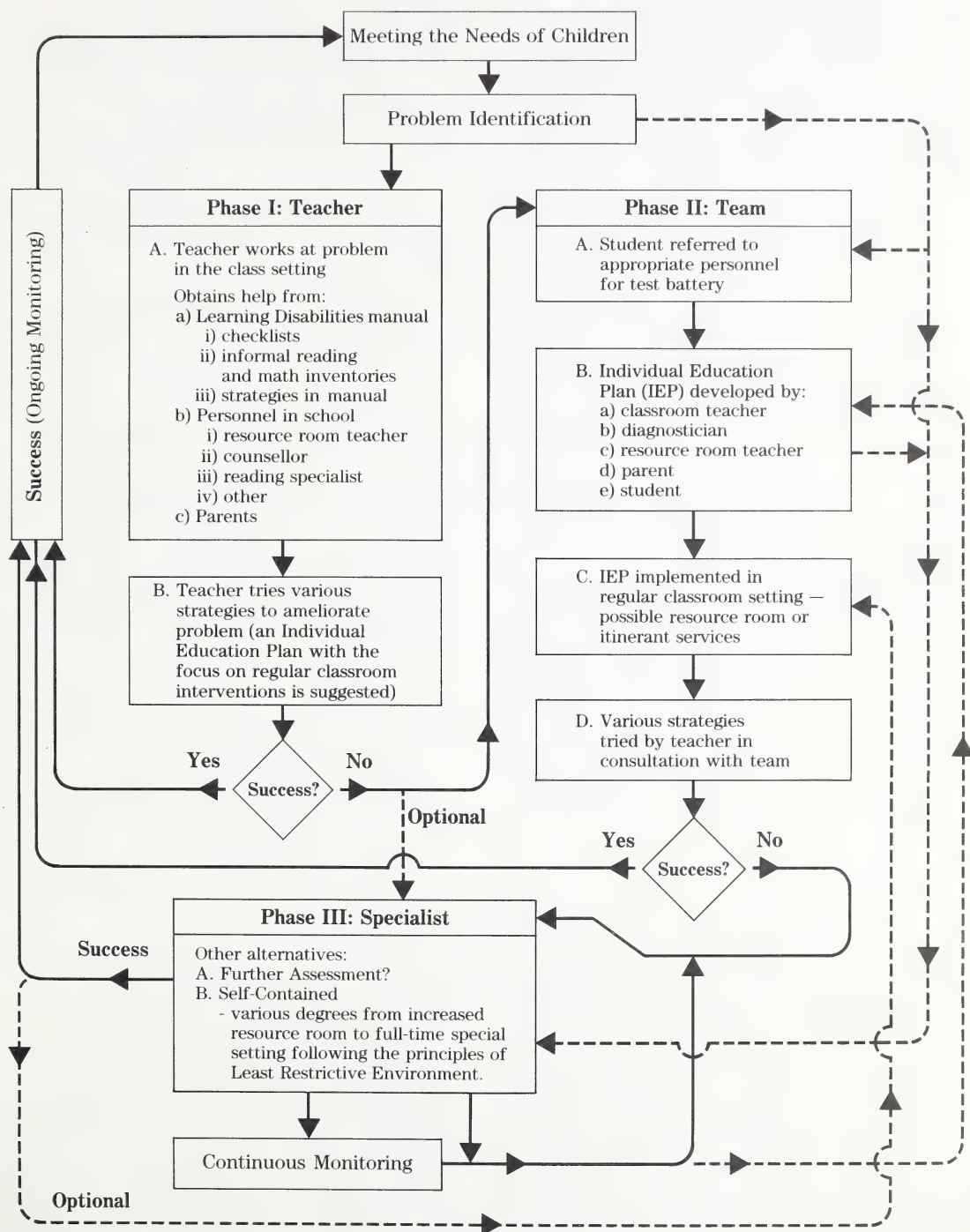
Chapter V discusses in detail the idea of parents and teachers as “partners”. The chapter describes the feelings parents often have when confronted with a child who has a learning problem, and provides helpful suggestions for the teacher in working with the parents.

Should a parent and teacher decide to provide an alternative placement, further decisions will become necessary, and other team members will become involved. The decision to alter the setting must involve professionals from the new setting. Long-term goals and specific objectives must be geared towards the child’s re-entry into his or her typical home-school environment wherever possible.

Model on Which the Manual is Based

Figure 1 represents the model on which this manual is based.

Figure 1
Intervention Model for Manual



Teacher Role

The classroom teacher is often the first to receive a referral or observe a learning or social problem. In most cases, the teacher should attempt to deal with the learning or social problem within the regular classroom through teacher-based assessment, altered teaching strategies, and discussions with the parent and student first. The teacher might choose to design an individualized educational plan.

Following attempts to deal with the learning and/or social problem within the regular classroom, the teacher should decide whether or not the techniques or strategies chosen have been successful. If the adjustments are not successful, the teacher should discuss the matter with the parent, principal, and student and, if necessary, make a referral to specialist support personnel for a more detailed evaluation. The referral form should be completed in a comprehensive manner so that the specialist readily understands the referral question and the steps that have been implemented thus far.

Upon completion of an evaluation by a specialist, the teacher should participate in planning the program to help determine the strengths and needs of the student, and so decide what degree of program modification and what type of placement will be required. The regular classroom teacher is a key member of the planning team.

The regular classroom teacher should remain involved, even when a student is placed outside the school, as the student may return to the regular class.

Specialist Evaluation

Evaluation by a specialist is aimed at clearly defining the problem. The evaluation should contribute to an individualized program plan that specifies long- and short-term objectives, and instructional strategies and materials.

Specialized Settings

Following attempts at resolving or providing coping strategies within the regular classroom, a second decision point is reached. In some cases, there will be a need for a further referral for a more specialized diagnostic evaluation and a second individualized program plan. This program plan may involve a more specialized setting. Success at this stage would see a return to more normal settings and techniques, while continued difficulties would lead to further specialist consultation and consideration of additional program alternatives.

Specialized settings should be used according to the following governing principles:

1. Students should be removed from the mainstream activity only to the extent that is necessary to deliver the program that meets their educational, personal/social, and career needs. As soon as the need for a more specialized setting has passed, students should be re-integrated with their peers.
2. A continuum of program and service settings typically is required for learning disabled students. For example, some students may be able to cope within the regular classroom, with modified instructional techniques or help from an itinerant teacher. Other students may require the support of a resource room/ learning assistance type of centre for 12-15 periods per week for additional help in reading strategies. Other students may have such extreme learning disabilities as to require a specialized class or school setting in which both the curriculum and the instructional strategies are significantly altered.
3. Program alterations should be determined through team discussion and decision-making. The type of placement would be determined by the type of program to be implemented. This is a key step since placement decisions should follow, and NOT precede, program decisions.

An Overview of the Model

The first step in meeting the special needs of the learning disabled student is to recognize that a difficulty exists. This step, referred to as "Problem Identification" in Figure 1, usually involves a referral by a parent or teacher.

Following identification, the teacher decides whether to attempt some in-class verification of the problem (Phase I) or to move to Phase II or III. This decision is made on the basis of the perceptions of the parent, teacher, and student regarding the extent of the difficulty. Phase I involves verifying that a difficulty exists and attempting in-class interventions. Consultation with other personnel also may prove helpful.

Next, the teacher will decide whether the intervention has been successful. Phase II should be entered if the student is not progressing. Again, consultation with both the student and the parents is a key factor in determining whether to enter Phase II. Possible outcomes of Phase II include use of an individualized program plan and use of a modified setting. Movement to a more intensive evaluation is possible at any point in Phase II, if the interventions have not been successful.

Phase III is a more intensive individualized phase involving more highly specialized personnel, programs, and placements. A return to less intensive options is possible at any time, depending on the results.

Three brief examples may serve to illustrate the flow of the model in a typical classroom.

Example One:

Parents inform the grade 1 teacher of a long-standing belief that their child has some type of learning problem. While many developmental milestones have been reached at the appropriate age, their child appears to miss some points of information. The teacher notes this observation and during the course of the first three weeks of school maintains a daily file of the student's responses to questions, attentiveness, cutting and drawing behaviors, reorganization of letters and numbers, and ability to follow directions. At

the same time, the teacher attempts alternative teaching strategies to improve the student's behavior. Based on observation during the three weeks and further discussion with the parents, the teacher and parents decide that a relatively serious learning problem appears to be present, that it does not respond to various alternative teaching strategies, and that a referral to a specialist is necessary since it appears that the more typical regular class instruction and resource room help may not be sufficient to diagnose and assist the child. A referral to a specialist service is made. Subsequently, through a team meeting including the parents and referring teacher, the program needs of the student are defined, a program requiring a full-time specialized setting is designed, and the child is classified as a student with a "learning disability" that cuts across both the visual and auditory processes.

Example Two:

During the second month of the school year, a grade 4 classroom teacher notices that sometimes Billy does not seem to be able to grasp the key idea in a story in his reader. She checks with his parents and arranges to spend a short time with Billy after class on two days. Each time, she tries out different reading passages and asks Billy comprehension questions. Billy seems to be able to deal with the oral questions but is not able to respond to written questions. Further individual testing, using the cloze procedure, (page 4.2-13) reveals that Billy does not appear to have many strategies to monitor his own reading.

Since the teacher recognizes that a number of students could benefit from extra instruction in these areas, the teacher designs and implements an altered instructional approach to address increased self-monitoring in reading. As well, she provides Billy with oral interpretations of the comprehension questions. These suggested techniques are discussed with the parents and with the principal. Since all agree with the approach, the class program is altered. Within a month Billy is showing some progress and other students also are demonstrating progress. The teacher decides to continue for a while.

Example Three:

Following the first month of school, a grade 10 social studies teacher notices that Margaret does not appear to be able to follow directions, is rarely on time for class, and fails to submit assignments on time. As well, her assignments are disorganized. The teacher discusses the situation with Margaret and her parents. Subsequently, a referral to a school psychologist is made. The psychologist concludes that Margaret may have a specific learning disability that interferes with her ability to organize, manage her time, and set priorities. Together, the teacher, Margaret, her parents, and the psychologist develop, implement, and monitor a time management program and a study skills program. As well, the teacher provides Margaret with directions both orally and visually. Within a few months the difficulties are less intrusive and Margaret reports feeling better about herself.

Although attempts to help learning disabled students are not always as successful, having a set procedure to follow, communicating with parents, seeking assistance, and modifying instructional approaches are often very effective ways of dealing with these cases.

Chapter I

Learning Disabilities: A Conceptual Approach

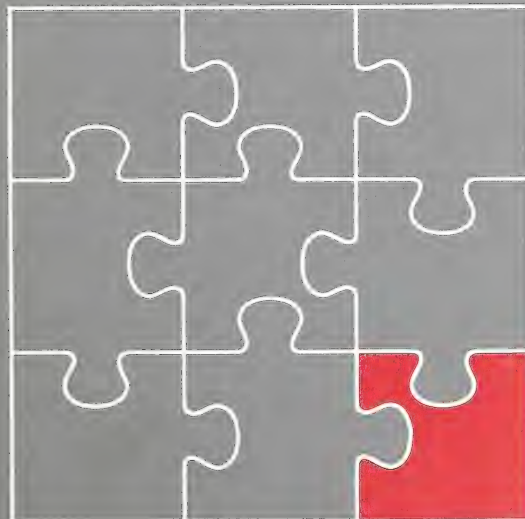


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Chapter One: Learning Disabilities: A Conceptual Approach

Objectives of the Chapter

The purpose of this chapter is to:

1. provide a conceptual framework for understanding the nature of learning disabilities,
2. review the general characteristics of a learning disabled student,
3. review areas where difficulties generally arise,
4. stress the importance of recognizing variations in normal behavior,
5. stress the importance of developing a team approach to working with the learning disabled student, and
6. provide a procedure for diagnosing a student with a learning disability.

Introduction

This chapter focuses on selected academic, social, and psychological characteristics which have adverse effects on students' learning and development. Sample behaviors among students of all ages will be noted, along with the characteristics most often used as evidence of potential or current learning and/or emotional difficulties. Any variation in behavior must be considered in the light of normal or expected deviations and the frequency and intensity of the behavior. The characteristics listed in this chapter are modifications of those presented by Ferrald and Schamber (1973), Kronick (1973), and Smith (1983).

Recognition of Normal Variations in Behavior

What is Normal?

A dictionary defines "normal" as "conforming with or constituting an accepted standard, model, or pattern; especially corresponding to the median or average of a large group in type, appearance, achievement, function, and development." Since many people experience fear of the dark, excessive anger, lack of school friends, poor motor control, and mild stuttering, these behaviors are considered "normal."

Longitudinal development studies have shown that children who are diagnosed later as having learning disabilities have often previously demonstrated motor, visual or coordination difficulties, excessive energy symptoms, poor attention spans, or retarded language development. However, not all students who have these symptoms are learning disabled.

In adulthood, the pressures of renewed and persistent learning are usually past, and learning has slowed down to a suitable pace. We seem to want to quicken the pace in childhood and push the child to early readiness, thereby accentuating any learning difficulties.

If normalcy is to be determined, there must be cooperation among professionals. We need the observations of the neurologist, ophthalmologist, pediatrician, speech and hearing specialist, psychiatrist, social worker, and psychologist. New knowledge in the field of preventive medicine, involving study of pre-natal, peri-natal, and post-natal factors, also has direct bearing on the diagnosis of learning disabilities.

For students learning in a language other than their mother tongue (English as a Second Language, Immersion), some care must be taken to ensure that a learning disability is accurately diagnosed. A normal developmental lag in using new language structures must not be confused with a learning problem. Similarly, a genuine disability may be masked by the difficulties inherent in learning a new language. Whether the student is best taught in that program with specialized help or, where possible, returned to English or mother language instruction is a complex decision. It is best made on an individual basis, after careful consideration of all factors. Alberta Education (Language Services) examines this issue in more detail in its monograph *Teaching in a Language Other Than English*.

Cultural and environmental factors may interact with a learning disability. It is particularly important for teachers, psychologists, and other school personnel to deal empathetically with such students. Cultural or environmental factors may mask a learning disability, or a learning disability may mask cultural or environmental differences. Rather than using standardized tests, learning potential and process testing may be more suitable. The timing in giving tests is important, as is the environment in which the test is given. These types of factors will also affect instruction. For Native students, the involvement of parents and significant others (such as elders) is crucial in the child's education.

Probably, there is no such thing as absolute normalcy. It depends on the situation one is placed in and the values the social group holds. We cannot assume that all children of a certain age should achieve a certain standard, because there is a great range of development and abilities at any given age. Children with learning disabilities are "normal" children; their disabilities are signs that their strengths have yet to be developed. The attaching of a label too quickly and without due regard can be devastating, doing more harm than good.

Strengths of the Learning Disabled

The learning disabled student should be viewed in a positive light, and dealings with parents and teachers should have a positive emphasis. Equal emphasis should be placed on reinforcing the strengths that these students exhibit. Being "inattentive," for example, may be a strength; the individual is responsive and sensitive to internal and external information. In the adult world an "absent-minded" person is tolerated and even admired whereas students are likely to be labelled as "easily distracted" or learning disabled.

Descriptions and diagnostic reports often fail to mention that the individual has normal or better capabilities. In particular, some learning disabled students show marked superiority in verbal or non-verbal reasoning, practical and social skills, athletic abilities, creativity on science projects, or social involvement and empathy. Because of the focus on the learning dimension, often the superior non-academic skills that are present are overlooked. Since schools emphasize the verbal and symbolic, many other kinds of talents are often ignored.

Although most of the literature on the learning disabled emphasizes weaknesses, these children can possess warm and loving qualities, empathy, abilities to observe and reflect, capacities to hurt and grieve, and abilities to adjust to their environments. A proactive approach would be to discover and nurture the unique abilities that each child has.

Towards Understanding Learning Disabilities

Under Alberta Education's Management and Finance Plan, each school jurisdiction is responsible for the education of all resident students, including students who have special needs. Therefore, school jurisdictions, private schools, and interest groups are

asking for more assistance in clarifying the nature of a learning disability. Many other categories of exceptionality appear to be described more easily; there are a number of issues related to identifying, providing programs for, and placing students who have learning disabilities.

For example:

1. Underachievement is often equated with a learning disability.
2. There is concern over differentiating a learning disability from other disabilities, such as a behavior disorder and mild forms of mental retardation.

Children who are underachieving because of extrinsic reasons (economic and cultural disadvantage, lack of opportunity, inadequate instruction) are often confused with children who are underachieving for intrinsic reasons (mental retardation, sensory handicaps, learning disabilities). Between one-quarter to one-third of all children enrolled in programs for the learning disabled may be misplaced.

The following outline has been developed in consultation with representatives of school jurisdictions, private schools, and the Alberta Association for Children and Adults with Learning Disabilities, to assist in understanding the educational implications of learning disabilities in school-age children. Although a learning disability is a chronic condition which will not disappear, even with special instruction, students can be helped to cope with their disability and succeed in school and life.

Conceptualizing Learning Disabilities

The term "learning disability" refers to any one of a heterogeneous group of chronic disorders that may have as its basis either an identifiable or inferred central nervous system dysfunction. These disorders may be manifested by difficulties in one or more processes such as attention and concentration, perception, coordination, memory, reasoning, organization, and

planning. This results in demonstrable weaknesses in language arts, mathematics, and/or social competence.

Learning disabilities may affect anyone. However, if a student is underachieving relative to his or her learning potential, and has no sensory impairment, no motor impairment, adequate motivational and learning opportunities, and an adequate learning environment, then learning disabilities are considered the primary disabling condition.

For the majority of students with learning disabilities, modification of the instructional process and/or the learning environment is required to meet their unique learning needs. In some instances, the use of a specific curriculum, directed to a student's needs and abilities, may be required.

Rationale for the Conceptual Statement

Heterogeneous Group of Disorders: No two people with a learning disability are alike. Therefore, individual programs should be developed for each learning disabled student based on his or her unique strengths and weaknesses.

Chronic: The underlying condition will continue to exist throughout life, but effective instruction can assist individuals to develop successful coping strategies.

May Have as its Basis Either an Identifiable or Inferred Central Nervous System

Dysfunction: It has been hypothesized that a learning disability is based in the central nervous system.

Manifested: The condition results in an observable deficit in one or more academic or social areas.

Language Arts: The condition will manifest itself in clusters of deficit areas. For example, a spelling deficit typically would be supported by evidence of deficits in related areas such as written expression and reading.

Mathematics: The use of the term mathematics is intended to include both arithmetic and problem-solving.

Social Competence: Deficits might be demonstrated as age inappropriate personal/social behaviors, and problems related to self-concept, family and peer relations, and school behavior.

Learning Potential: A learning disabled individual may have the potential or ability to undertake academic work. The potential may be measured by a battery of tests including the WISC-R or Stanford-Binet Intelligence Test.

A learning disability may affect those with above or below average learning potential as well as those in the average range.

Because learning disabilities and learning potential are difficult to determine, personnel who have specialized training in child development, individualized psycho-educational assessment techniques, and the nature of exceptionalities should assess the students. The use of clinical judgement is also necessary. The trained clinician is best able to judge both the learning potential of the individual and the element of error involved in the assessment process and to interpret this to the teacher and the parent.

Students having learning disabilities are found at all ability levels. The special education curriculum guides for the Educable Mentally Handicapped, Trainable Mentally Handicapped and Dependent Handicapped issued by Alberta Education address the matter of learning disabilities as a vital component of each of these programs.

With the exception of the three curriculum guides noted in the preceding paragraph, curriculum guides issued by Alberta Education are intended for students of average or above average ability and do not address the specifics of students having learning disabilities. This teacher manual for the students with learning disabilities is designed to provide the regular classroom teacher with teaching strategies that will help to identify the learning disabled student and to offer effective remediation at the elementary, junior high, and senior high school levels. Teachers in programs for the learning disabled students — whether in resource rooms or full-time programs — may also benefit from this material. This teacher manual on learning disabilities is intended to provide useful information to all teachers.

No Sensory Impairment, No Motor Impairment, Adequate Motivational and Learning Opportunities, and an Adequate Learning Environment: Care should be taken to avoid confusion between a sensory impairment, such as a vision or hearing

impairment, and a processing impairment, such as auditory sequencing. As well, a motor impairment should not be confused with a processing deficit. Adequate motivational and learning opportunities and an adequate learning environment are included to indicate that a learning disability does not arise from a lack of exposure to life experiences and/or education typical to the community for the same age group, but is believed to be the result of a deficit in the central nervous system.

Modification of the Instructional Process:

Just as a student can modify learning strategies to cope with a learning disability, so a teacher can modify instructional strategies. The modification of teaching strategies is an important aspect of the education of learning disabled students.

Specific Curriculum: As well as altering teaching strategies, the course content may need to be altered to suit the needs of a student. While this may be a necessary undertaking in some cases, it has implications for what the student is learning and how effectively the student will be able to meet the demands of society. “Watering down” the content may be detrimental to the student and interfere with subsequent educational or career aspirations. A more appropriate approach is the utilization of a specific curriculum (e.g., Integrated Occupational Program) which is directed to a student’s needs and abilities. Such a change should be undertaken only following careful consultation with the partners in the educational process, these being the parents, teacher, and student (whenever feasible).

Modification of the Learning Environment: Alterations to the learning environment are sometimes necessary. Alterations to the learning environment may include alterations to the physical classroom setting and/or to the learning atmosphere. Such alterations must be considered carefully, involving all the partners in the deliberation.

Child’s Unique Learning Needs: A learning disabled child has characteristics that are separate and different from characteristics associated with any other condition. These distinct needs require individually designed intervention, usually through an Individual Program Plan.

How to Diagnose a Learning Disability

The following procedures will help teachers to identify learning disabled students, and also other students who have particular learning strengths or weaknesses.

1. Parents should be encouraged to discuss concerns about their children's abilities to learn with the school.
2. Regular comprehensive vision and hearing examinations including ocular control measures, should be provided.
3. The school jurisdiction should administer reputable normed group achievement and ability tests. Results generated by these measures will help indicate discrepancies between expected and actual achievement levels.
4. As a minimum, the following screening devices should be used in cases where a learning disability is suspected:
 - a) An individually administered intelligence test which will provide a measure of the student's learning potential and specific strengths and weaknesses.
 - b) A diagnostic reading test which will provide the following information: decoding skills (letter recognition; letter/sound association; blending skills, sight vocabulary), and comprehension.
 - c) A graded spelling test which contains both regular and irregular words.
 - d) A sample paragraph of the student's written expression which will allow you to assess:
 - printing versus cursive writing,
 - motor coordination,
 - capitalization and punctuation,
 - sentence structure,
 - organization of thought.

Underlying Principles of Behavioral Characteristics

1. Human beings are complex. Each child, adolescent, or adult is unique. Uniqueness does not imply abnormality.
2. Some signs indicating a learning disability appear early in life. Significant signs will persist.
3. Every sign must be examined in the light of the frequency (how often) and intensity (how strong) of its occurrence.
4. Student behaviors vary considerably as a function of age, sex, personality, milieu, teacher, subject area, health, time of day, and other factors.
5. Observation and rating of student behaviors takes time and skill. Independent observation by more than one person will improve reliability.
6. Characteristics of learning disabled behavior will overlap with other problems, for example, emotional disturbance, mental retardation, physical health problems.
7. Each behavior should be viewed on a continuum from mild to severe, and never present to always present.
8. Certain characteristics may be a reaction to a threatening learning situation.
9. Teachers should attempt to accommodate many of these characteristics/behaviors within the regular classroom.
10. Teachers, parents, and specialists must collaborate on their respective observations in order to facilitate the identification of a learning disability.

Social and Development Characteristics

1. Disorganization

A child may have impaired self-organization skills, an inability to organize information in sequential patterns, difficulty in focussing on a task or lesson, and an inability to organize thoughts and actions into a sequential pattern.

2. Distractibility

This characteristic, often called Attention Deficit Disorder, may be exhibited through heightened sensitivity, inattention, and a lack of inner control. Individuals may attend to irrelevant stimuli or physically move about so as to reduce attention to relevant cues. Concentration is disturbed.

3. Weak Habit Development

A learner does not learn automatically from hearing or seeing things repeatedly. For children who have weak habit development, habits are not developed nor maintained easily, motor acts are awkwardly executed, and long-term recall is affected.

Characteristics/Behaviors

1. Has difficulty with tasks requiring speed, precision, and recall.
2. Learns slowly, e.g., new rules, rules of a game.
3. Has difficulty remembering birthdate, phone number, address.
4. Has difficulty learning letters of the alphabet, sound-symbol relationship. Weak in sight vocabulary, sound blending, oral reading.
5. General comprehension acceptable but weak in recall of details or making inferences.
6. Orally fluent but makes errors in written work.
7. Has difficulty remembering grammatical rules.
8. Poor concept of time and space.
9. Cannot seem to learn from repetition.
10. Uneven daily work.
11. Often hard to manage, hard to teach.
12. Simple social graces often lacking.
13. Weak closure skills, e.g., filling in ends of sentences.
14. Approaches every old task as a new one.

4. Hyperactivity

Hyperactivity is often referred to as hyperkinesis, meaning excessive motor restlessness. The student may be in constant motion, or demonstrate inappropriate movement or restlessness. Alternatively, hyperactivity may also refer to a speeded-up decision-making process, acting impulsively, and on the spur of the moment.

5. Hypoactivity

Hypoactivity is the extreme opposite of hyperactivity. The student is generally extremely lethargic, withdrawn, and often not noticed by the teacher.

Characteristics/Behaviors

1. Slow response time.
2. Excessively slow in arriving at a decision.
3. Extremely slow in answering questions.
4. Slow movements.
5. Quiet voice and little verbalization.

6. Impulsivity

Impulsivity is a tendency to act strongly in response to a stimulus, without thought or deliberation; the act arises suddenly from excitement, habit, or other circumstances. The act is immediate and involuntary, and it occurs on the mere presentation of a stimulus.

7. Inflexibility

Inflexibility refers to the tendency towards having a fixed or set way of doing things. It is seen as a mechanism for controlling one's world, making sense of it, and reducing threat to oneself. A limited set of learned responses is used in responding to the environment.

8. Perseveration

In this context, perseveration is the tendency of an idea, feeling, or mode of activity to recur or be repeated over and over when it should have stopped. A certain attitude or set of behaviors is repeated often in different situations, thus making it inappropriate.

9. Social Relationships

The ability to make, maintain, and develop personal relationships with peers or adults may be impaired. The child may not be able to experience satisfaction from being with others without becoming overly tied to them.

Characteristics/Behaviors

1. Always sees the negative in a social situation, e.g., "Nobody likes me".
2. Has difficulty analyzing other people's feelings, cannot interpret facial expressions of anger, joy, sadness.
3. Has difficulty analyzing his or her own feelings.
4. Shy and withdrawn in a group.
5. Picked on by others, teased, and made fun of.
6. Refuses to do group work, read in class, or join in with others.
7. Has one or two close friends, expresses fear of losing a friend.
8. Clings to or holds onto mother's or teacher's arm or leg at inappropriate times (young child).
9. Displays inappropriate affection by clutching, holding, or kissing.
10. Absent from school frequently without apparent reason.
11. Fails a test or quiz for no apparent reason.

Behaviors Exhibited in the Major Learning Channels

Teaching primarily involves the reception of information visually or aurally. Therefore, teachers or parents may observe behaviors that reflect a distortion in the major learning channel.

1. Auditory Receptive Channel

Characteristics/Behaviors

1. Scowls, frowns, tilts the head when listening.
2. Inattentive in class, looking around, moving.
3. Limited expressive language, has difficulty answering questions.
4. Has difficulty repeating sentences, musical lyrics.
5. Has difficulty remembering auditory information.

2. Visual Receptive Channel

Characteristics/Behaviors

1. Cannot see the blackboard, words are blurry.
2. Loses place while reading, skips lines.

3. Distracted by irrelevant, inappropriate, or erroneous visual stimuli.
4. Has difficulty remembering things seen.
5. Uses finger to follow line while reading.
6. In arithmetic, loses place while borrowing or carrying.
7. Makes many mistakes while copying from the blackboard.
8. Confuses letters that are similar in appearance, e.g., b-d, m-n, p-q.
9. Confuses right from left, up from down.

3. Verbal-Expressive Channel

Characteristics/Behaviors

1. Articulation errors in speech, e.g., rabbit-wabbit.
2. Speaks in awkward tempo and rhythm.
3. Enjoys non-verbal subjects, e.g., art, physical education.
4. Has difficulty answering a question orally.
5. Makes many syntax errors when writing or printing.
6. Has difficulty with sequence in repeating a story heard or read.
7. Cannot seem to find appropriate words (word-searching).
8. Makes frequent errors in spelling.
9. Stutters or stammers while speaking.
10. Misses shades of meaning in words or sentences.
11. Has difficulty with inference questions in reading comprehension.
12. Has difficulty communicating with peers, e.g., does not know how to hold a conversation.
13. Loses interest in discussion-type lessons.

4. Written-Expressive Channel

Characteristics/Behaviors

1. Presses very hard on pencil.
2. Mixes capital and lower case letters.
3. Writes off the line.
4. Gets letters out of sequence.
5. Has difficulty with sequence of holidays, months of years, and days of week.
6. Has difficulty with sequence of stories, beginning, middle, and end.
7. Writes stories that lack a plot.
8. Vague and incoherent ideas.
9. Lack of variety in sentence structure.
10. Seldom uses topic sentences in a paragraph.

Early Warning Signs in the Preschool Years

Often parents ask teachers about the early signs of a learning disability. Children with learning disabilities follow the same sequence of development as other children, but the rate may be slower and/or demonstrate peaks and valleys across activities.

Since knowing which behaviors reflect altered development will assist in early remediation, parents are advised to seek the advice of medical personnel and other specialists should the following signs appear:

1. Visual Perception and Visual-Motor Development

In kindergarten, many activities involve matching by shape, color matching, match-to-sample, visual discrimination, or completing an incomplete shape or figure. Difficulties with these tasks may indicate a problem.

2. Attention and Concentration

Characteristics/Behaviors

1. Does not shift or orient to a sound (orienting reflex).
2. Does not seem as alert as other youngsters.
3. Fails to recognize previously encountered objects, people.
4. Fails to learn from listening or repetition.
5. Misunderstands meaning of words, smiles, or discipline.
6. Has short attention span (will vary with age).
7. Quickly loses interest in a toy or game.
8. Cannot sit still while being read to.
9. Always looks for attention from a parent.
10. Forgets previously learned words.

Lack of attention and concentration reduces the opportunity for learning in the natural environment, and creates gaps in the early development of knowledge and skills. Attention also is highly correlated with memory. Hence, not all information perceived is stored in memory for later use.

This is often the case when teachers report that a child is "immature" or does not have the necessary "readiness skills" for ECS or grade 1.

3. Language Development

Characteristics/Behaviors

1. Slow in learning to talk.
2. Shows no learning of words, then has a rapid spurt of language development.
3. As an infant, has unusual or abnormal crying patterns (often seen in potential language disorders).
4. Misuses known words, e.g., a "short" apple.
5. Reverses syllables or letters in words, e.g., dog-god.
6. Show signs of stammering or stuttering (by age 2).
7. Has difficulty expressing meaning through words (auditory expressive language problem).
8. Has difficulty classifying objects either verbally or manually (language conceptual development).
9. Has difficulty articulating certain sounds of letters, e.g., 'r'.
10. Has difficulty interpreting idioms such as "Go jump in the lake."
11. Has difficulty understanding a speaker because of tone, voice, pitch, or style (morphology).
12. Has difficulty learning or using low-information carrying parts of a phrase (e.g., articles and prepositions).
13. Cannot master subject/predicate/object relationship in a sentence (by age 3).
14. Has difficulty understanding concepts conveyed in sentences, e.g., trouble with "wh" questions (what, when, where) or negatives.
15. Has difficulty in naming objects (word-finding).

The above symptoms may be caused by auditory-perceptual confusion, poor memory for rule-learning, weak memory for words, or other factors. Weak language development leads to poor categorizing (concept development), poor recall of word order and inability to shift ideas. In turn, these affect thinking, problem-solving, social interaction, and daily regulation of motor activity. By the time a child enters school, the major linguistic rules should be mastered.

Early language signs are the most important ones to note. Neonatologists (those in the medical profession specializing in pre-, peri-, and post-natal development) are providing new findings that link these early signs to pre-uterine and uterine conditions. Parents might be advised to discuss such factors with their family doctor.

Organizing the Characteristics into Major Groups

Grouping characteristics is a difficult and problematic task. Blowers and Ilott (1983), listed learner characteristics by grade level (primary, elementary, junior high, senior high, post-secondary) and across physical, educational, and socio-emotional dimensions. However, note Gearhart's (1977) caution that symptoms must always be interpreted in the light of expected variations in the normal learning environment.

Current studies have identified the following three major groupings of the many characteristics of the learning disabled.

Group 1: Processing Deficits

Processing deficits may be seen in terms of difficulties in receiving incoming stimuli (e.g., listening and attending skills, short-term memory skills, eye-to-hand coordination skills); internal processing of information (e.g., sequencing skills, coding skills, rehearsal techniques, self-verbalization skills, long-term memory skills, retrieval skills, organizing skills, decision-making skills, analysis skills); and output demands (e.g., gross and fine motor skills, encoding verbal cues, physical skills, speech skills, writing skills, note-taking skills).

Current studies (Towle, 1982; Dean, 1977; Carmen and Adams, 1972) have found an added characteristic common to many learning disabled individuals — that of inadequate study skills. Processing information (e.g., textbooks, films, lectures, discussion, library use, reference text use) is the first stage in studying. Many learning disabled individuals have serious weaknesses in learning how to organize information,

process it, rehearse it, recall it, and apply the information either on assignments or in tests. Characteristic of these students is the inability to:

1. identify key terms,
2. take notes from printed material,
3. take notes from lectures,
4. make outlines from printed materials or lectures,
5. arrange information in sequence,
6. rework organization of notes and handouts, or
7. study for an exam.

While motivation and attention deficits can account for some failure in study skills, many learning disabled students simply do not have the necessary information-processing skills to study effectively.

Group 2: Attention Deficits

Some learners underachieve or process information poorly largely because of weak attention skills. Such individuals have difficulty maintaining attention, concentrating on a task, completing a task, or knowing how to begin an assignment. Attention deficits also can be the result of motivational deficits.

Group 3: Social-Emotional Deficits

Lowered self-perception may occur concomitantly with signs of nervousness, tension, and increased body activity. These signs, as well as physiological indicators such as perspiring palms, increased heart rate, and a rise in perspiration are associated with states of heightened anxiety and lowered self-perception, especially in relation to academic areas. It has been stated that learning disabled individuals fail largely because the motivation/self-interaction is debilitating. The effects are far-reaching, including personality problems such as depression, conduct disorders, truancy, and school phobia.

Conclusion

The learning disabled student may have many varied characteristics. The lists of characteristics included here should be examined in the light of three major groupings; namely, processing, attention, and social-emotional deficits. Overlap is the rule, rather than the exception; every variation in behavior is not necessarily a sign of a learning disability.

Summary

This chapter:

1. states characteristics of the learning disabled student,
2. notes the behaviors exhibited in three major learning channels — auditory receptive, visual receptive, and verbal-expressive,
3. points out some early warning signs that may occur in the pre-school years,
4. organizes the characteristics of learning disabilities into major groups,
5. recognizes the importance of emphasizing the strengths as well as the weaknesses of students with learning disabilities,
6. provides a conceptual framework for understanding the nature of learning disabilities,
7. provides a procedure for diagnosing a learning disability.

Teacher Resources

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Chapter II

The Importance of Student Self-Concept in Teaching the Learning Disabled Student

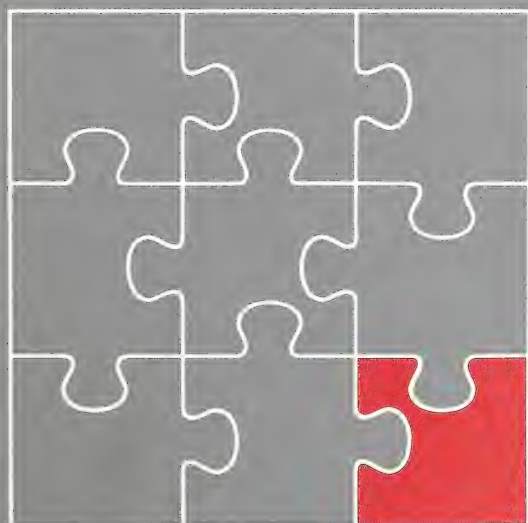


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Chapter Two: The Importance of Student Self-Concept in Teaching the Learning Disabled Student

Objectives of the Chapter

The purpose of this chapter is to:

1. note the relationship between learning and self-concept,
2. stress the need to distinguish between failing and making a mistake,
3. provide suggestions for helping learning disabled students acquire a more positive self-concept, and
4. express the need for effective and caring teachers.

Introduction

Teachers should be conscious of the personal/social needs of the learning disabled student, and continually strive for excellence and caring in their teaching. Consistent excellence and caring is hard work because it requires innovation, tolerance, understanding, empathy (not sympathy), and knowledge.

Teachers face and meet many challenges, but no challenge is greater than that of creating a caring environment, and perhaps no reward is greater than the satisfaction of knowing that through one's efforts life has been made a little easier for the special students in our schools.

Learning disabled students are frequently described as having poor self-concepts, and as being poorly motivated. Since the evidence that these observations are accurate is well established, time will not be spent reviewing the voluminous research in this area. Instead, this chapter will address what the teacher can do to improve the student's self-concept, thereby improving the

student's potential to learn. In other words, it focuses on the important guidance role that all teachers ought to play.

The Relationship Between Learning and Self-Concept

Positive Self-Image

Self-actualizing people tend to see themselves as people who are liked, wanted, acceptable, able, dignified, and worthy. Seeing themselves in this way gives them a great deal of inner strength, and they face their daily problems with confidence. This does not mean that they do not ever see themselves negatively. They do, but it does not upset them very much because they are able to say "Yes, that's true, sometimes I'm a stinker, but most of the time I'm a decent person." Psychologists and educators are discovering that being well adjusted or badly adjusted depends primarily on how the person sees himself or herself. No doubt teachers could confirm that the youngsters they have trouble with in school are not the ones who see themselves as liked, wanted, acceptable, able, and dignified.

Effects of Experience

What, then, are the implications for education? First, what people believe about themselves is what they have learned as a result of their experiences — mainly their experiences with their parents and teachers.

How easy it is to blame the parents for the behavior and low self-esteem of learning disabled children. Certainly, parents have tremendous influence. However, don't hide behind that excuse, but focus on what is or is not being done.

Self-Concept as a Prediction of Achievement

Students who believe they can read do a lot of reading. Students who believe they cannot read avoid reading; and because they do so little reading, they do not do it very well. Statements such as "You don't read very well," simply confirm what they have known all along.

The research literature is full of reports which indicate that cognitive learning increases when the self-concept becomes more positive. Perhaps the most dramatic study was one in which kindergarten children were studied in an attempt to see if self-concept was predictive of reading success two-and-a-half years later. Not only was it found that it was a predictor, but that it was a better predictor than intelligence. Students with negative self-concepts either did not learn to read or, if they did, they did not read as well as students with positive self-concepts. Other studies indicate that the relationship is especially strong for boys. Studies also demonstrate that this relationship becomes evident as early as grade 1 and, unfortunately, that the learning difficulties continue throughout the school years.

Learning is a highly personal thing. Everyone can remember being asked to learn things in school that never came to have much personal meaning. All the same, wherever possible teachers should ensure that learning disabled students have positive learning experiences, and that they are learning things that matter to them personally.

A caution is appropriate at this point. While learning disabled students should be given positive experiences, they should not be protected from making mistakes. Making mistakes is normal. A child would have great

difficulty in learning to walk if he was not willing to fall down. A distinction should be made between failing and making a mistake. What constitutes a failure is the feeling about the mistake. A story told about Thomas Edison helps to make this distinction. At one point in his career, a company that supported him financially asked him to build a storage cell. After a fairly long time, Edison had not managed to build a satisfactory storage cell. His backers commented that he had tried 40,000 ways and each of these ways had been a failure. Edison responded, "Those are not 40,000 failures, but simply 40,000 ways I don't have to try again." Apparently it took another 30 to 40 thousand trials (or mistakes) before he was able to build a satisfactory storage cell. It is when students are perceived as failures that they begin to see themselves as failures. When they perceive themselves as failures they continue to have failing experiences.

Teacher Expectations

In a study, 20 per cent of the students in a certain elementary school were described to their teachers as showing unusual potential for intellectual growth. The names of these 20 per cent were actually selected randomly. Eight months later these unusual or "magic" children showed significantly greater gains in IQ than did the remaining children who had not been singled out for the teachers' attention. The change in the teachers' expectations regarding the intellectual performance of these allegedly "special" students had led to an actual change in their intellectual performance. These results describe how teachers might behave. Somehow, those teachers subtly, and perhaps not so subtly, communicated to the students what they expected. In turn, the students apparently lived up to the teachers' expectations.

Research has demonstrated that a person cannot accept other people until he has accepted himself. Think of someone who is exceedingly critical of everything and everyone. It is likely that you are thinking of a person who has difficulty in accepting his own weaknesses and limitations. A well-adjusted person can look at his own flaws and limitations, while the poorly adjusted students were not willing to admit to weaknesses. Well-adjusted or fully functioning people are not afraid to explore, try, and search out new ways of doing things, and to make mistakes in the process.

Consequently, it is important that teachers provide students with opportunities to explore themselves, and try unusual solutions to problems.

Father Conway says, "The only trouble with our schools is that we pick up the kinds before they fall down." A preoccupation with right answers leads to sometimes forgetting that looking for the solution may be more stimulating and enriching than actually arriving at the correct answer. Giving young people opportunities to explore and test themselves means that there may be disorder and confusion, but it is not likely the world will fall apart.

Responsibility

Another suggestion is to give young people more responsibility. If the primary purpose of schools is to develop decision-making, responsible, self-educating individuals, then students must have opportunities to develop these skills. This is true in both elementary and secondary schools.

Russell (1965), in a book called *Change and Challenge in American Education*, argues for providing more opportunities for student freedom. He argues that education must have a change function, and that the greater need is not to learn how to do things — how to perform and how to act — but how to judge, balance, and perceive. Every person must become capable of managing himself or herself.

Learning disabled students need to learn to use time as a tool. Tight scheduling for six periods a day at school, with no optional choices, may not help students make judgements about appropriate use of time. Some schools have grown dependent upon organizational practices that are more intent on managing students than educating them.

Much of the so called "teenage problem" may be based on the fact that young people are not given enough responsibility. Young people need to know that they are important. Otherwise they will decide that they are not really wanted, they do not really belong, or have a contribution to make in an adult world, and then they will build their own society. In fact, they have: their own society with their own values, their own symbols of status, their own dress, their own hair styles (which some adults have copied to attempt to gain acceptance into their society), their own language, and their own music. A cautionary note is important at this stage. While the giving of responsibility is important, it is also important to provide support in the use of this responsibility. Some learning disabled students are reluctant to accept responsibility because of real problems in organizing and monitoring their own actions. Responsibility should be viewed as a tool to further development, it should not become a stress agent for a student who has real self-management problems.

A great deal has been written about what is called a "failure crisis" in our society. Young people fail in many important ways. They fail in achieving in school, making friends, having fun, and in winning the respect of others in responsible ways. Successful children generally do not get into serious trouble. It is when students start thinking of themselves as failures, and therefore not worth very much, that they begin to choose to act irresponsibly, in this way striking back at others, including parents. Glasser was asked whether or not he believed this feeling of failure is more common among young people today than it once was. He responded, "If the proportion of juveniles getting arrested is going up, that is a reflection of more children failing." Learning disabled students attempt to run away from their feeling of failure in many different ways. Some students drop out of

school, some flunk out, some opt out, some run away by taking drugs or using alcohol. Others attempt suicide.

It is only through some kind of trust and through "letting them try", that students can explore themselves and discover who and what they are.

There is a distinct relationship between learning and the self-concept of the learner, and teachers contribute significantly to the self-concepts their students develop. In a very real way, students who can learn or students who have difficulty in learning are created.

What Teachers Can Do to Promote Positive Self-Concept

A number of specific suggestions for promoting positive self-concept have already been made in the preceding section. Possibly one of the most useful and concrete suggestions is to recommend the book *100 Ways to Enhance Self-Concept in the Classroom: A Handbook for Teachers and Parents* by Jack Canfield and Harold C. Wells (1976). Following are some of the suggestions from this book (pages 4-6):

1. It is possible to change self-concept, and it is possible for teachers to affect the changes either way, both positive and negative.
2. It is not easy. Change takes place slowly, over a long period of time.
3. Efforts that aim at more central beliefs have greater impact on the student even though they are harder to change.
4. Peripheral experiences are helpful. (Keep in mind that everything that a teacher does in interacting with students has an effect on their feeling of self worth.)
5. Relating successes or strengths to one another is important. (One can find a positive aspect in any task.)

Classroom climate is crucial for developing positive self-concept in students. It was found in a study involving third grade students, that classroom climate (defined as empathy, congruence, and positive regard) influenced the cognitive growth rate of the students. The results indicated that students who had teachers who had high ratings in these areas were higher academic achievers.

We should strive for a natural, human, democratic relationship, involving students from the beginning in creating the environment. They must help in decision-making about the physical setting (the arranging of the room, care of equipment, and bulletin boards). Students also must be involved in planning the academic environment. This includes decisions about content, sequence of activities, and even methods of study. Some limits are defined by government and school jurisdiction policies, these too must be openly acknowledged and confronted.

Students have a vested interest in the emotional environment of the classroom. Teachers and students should sit down together to discuss cooperation and competition, trust and fear, openness and deceit. These and many other topics discussed in classroom meetings help create the kind of climate that fosters total student growth. Canfield and Wells (1976) cite several other factors that contribute to a positive classroom climate, including teacher behaviors such as (page 6):

1. Accepting student contributions without judgement.
2. Maintaining a "you can do it" attitude.
3. Listening, listening, listening.
4. Being, in all ways, a friend.

The Role of the Classroom Teacher

Being a good teacher may not be all that difficult, but being an outstanding teacher who really makes a difference in the lives of students requires hard work and determination. The classroom teacher should assume the primary responsibility for guidance, because he or she spends the

largest amount of time with the learning disabled student (especially in elementary school). The classroom teacher has more opportunity than any other professional to become acquainted with a student's abilities and liabilities. In the final analysis, the teacher carries out the greatest share of intervention measures and therapy, regardless of what other personnel are available.

Of course, we are all aware of the importance of specialized guidance personnel in the total school program, and it is hoped that educators will become increasingly aware of the need for larger numbers of highly trained specialists to be available as consultants. Roles and responsibilities for all members of the school guidance team are presented in the Alberta Education manual, *Guidance and Counselling Services in Alberta Schools*.

A Developmental Approach

Guidance services should turn away from crisis approaches, and instead become developmental and proactive.

The effective and caring teacher tries to determine the potential of students and to establish a physical and emotional climate conducive to optimum development of those potentials. One author has proposed an analogy which helps us to appreciate this important teacher role. He suggests that, like plants in a garden, most students will survive their growing-up process and become mature individuals if given a fair amount of care and a reasonably good environment. Both plants and students will develop their potential even more if optimum conditions for growth are provided. Such programs are developmental approaches to guidance.

School personnel who have a philosophy of prevention concern themselves with establishing conditions that will prevent problems. The accent then is on prevention of school failure, prevention of poor mental health, and prevention of delinquency.

While there are three approaches to guidance — developmental, preventive, and remedial — they are not so separate and distinct. A particular school could choose to operate from a developmental approach totally and do no preventive or crisis work. However, if the developmental approach is properly utilized, it will automatically serve as a preventive function and lessen the need for crisis work.

A large number of programs attempt as their primary goal to strengthen the affective components of learning: the learning climate, interpersonal relationships in the classroom, the learner's self-concept, self-awareness, and understanding of self and others. This manual describes these programs in the section on social skills. This aspect is also stressed in the Alberta Education health curriculum and in the career and life management secondary curriculum.

When working with the learning disabled student in any context (language arts, social skills, mathematics) the teacher must consider the development of a good self-concept (academic and general).

Summary

This chapter:

1. notes the relationship between learning and self-concept,
2. stresses the need to distinguish between failing and making mistakes,
3. provides suggestions for helping learning disabled students acquire a more positive self-concept,
4. expresses the need for effective and caring teachers.

Teacher Resources

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Chapter III

Program Development for the Learning Disabled Student

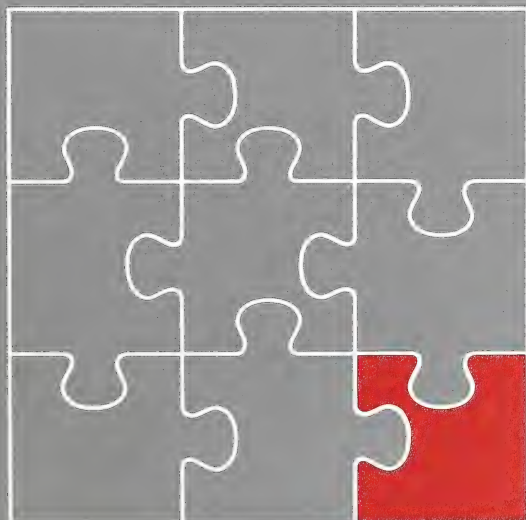


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Chapter Three: Program Development for the Learning Disabled Student

Objectives of the Chapter

The purpose of this chapter is to:

1. outline Alberta Education's policy on program planning,
2. describe the relationship of Alberta Education policy on program planning to learning disabled students and to the intervention model,
3. describe the program planning process including screening, assessment, referral, the program plan, and continual monitoring,
4. note the importance of modifying instruction, curriculum, and the learning environment, and
5. note the importance of teacher self-evaluation.

Introduction

Educators must address every student's unique needs, abilities, and talents. However, certain students have exceptional needs that must be addressed in a more systematic and deliberate fashion to assist them in reaching their potential. These exceptional students include the educationally disabled and the gifted and talented.

Alberta Education supports the provision of educational programs designed to meet the special needs of exceptional students. School jurisdictions, which are in a position to respond to specific local needs and objectives, are responsible for the identification, assessment, program development, placement, and evaluation of exceptional students.

In order to support school jurisdictions in this undertaking, Alberta Education provides program funding for exceptional students through the Special Education Program Grant. This single annual grant is paid on a per resident student basis. As well, Alberta Education provides information and advice related to the development, implementation, and evaluation of special education programs. Examples of such information and advice include the Special Education Manual, the manuals on guidance and career development, as well as teachers' manuals on learning disabilities, behavioral disorders, the gifted and talented, the visually impaired, the trainable mentally handicapped, and the hearing impaired.

Meeting the Needs of the Educationally Disabled, Gifted or Talented

There are several ways of conceptualizing what constitutes a specific disability, gift, or talent. Consequently, to assist school jurisdictional personnel, Alberta Education has established broad descriptive frameworks outlining the key characteristics of a learning disabled student, a behaviorally disordered student, and a gifted or talented student. These key characteristics are outlined in the respective manuals for teachers.

To ensure that the students' wide range of needs and abilities are being met, Alberta Education has set out in the Special Education Manual (1984) and the Special Education Handbook (1982) a generic program planning model. The model emanates from the belief that individual student needs should determine the nature

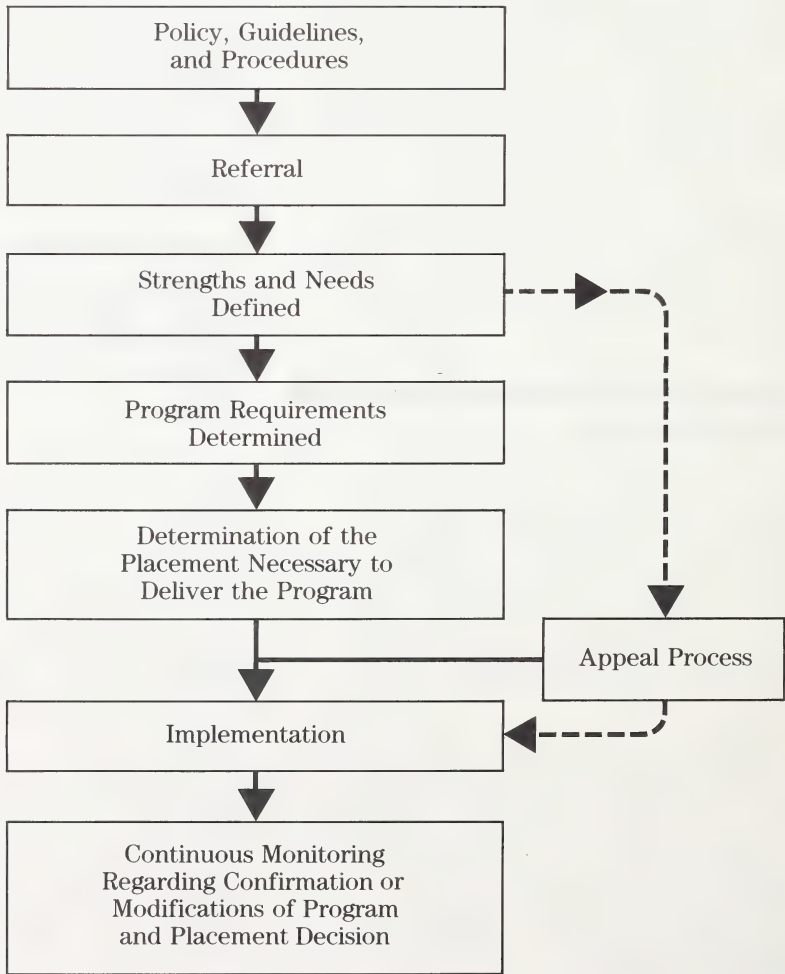
of the program, particularly when the student has exceptional needs. These needs determine the nature of teaching, the curriculum, and, in some cases, use of an alternative setting.

Recent developments in educational planning demonstrate the effectiveness of considering student program needs and strengths before deciding the degree of program modification required. This information is used to determine whether or not the present setting is the most effective one in which to deliver the program. A

decision regarding program design and placement results from discussions regarding students' educational strengths, needs, and aspirations.

A simplified visual representation of this model is shown in Figure 2. It is important to note that the model is based on Alberta Education policy, guidelines, and procedures on program planning. School jurisdictions also should develop their own policy, guidelines, and procedures incorporating Alberta Education policy along with local needs and objectives.

Figure 2
Flow Chart of Decision-Making Model
Regarding Special Education Program and Placement Decisions



While the model is familiar to many parents and educators, continual refinements and enhancements are being made. Following is a brief review of the control principles of the model, incorporating recent changes.

Beyond student self-referral, parental referral, and teacher referral, school jurisdictions should provide for the regular screening of students to determine any disabilities, gifts, or talents. Screening may include the use of teacher/parent checklists, informal tests, group or individually administered standardized tests, and anecdotal data. Following initial identification of a special need, through screening and/or referral, it is necessary to gather additional data by taking the following steps:

1. A comprehensive vision and hearing examination can determine whether there is a sensory basis for a learning difficulty. Specific referral questions should be developed to assist in guiding the ophthalmic examination.
2. An individually administered intelligence and/or cognitive processing scale can determine the learning potential of the student. Specific measures to support the determination of general ability may also be necessary, along with adaptive behavior scales. **Note:** For students who have behavior disorders, low functioning students, and students from other cultural or language backgrounds, an accurate intelligence quotient may not be obtainable.
3. A series of assessment devices that are standardized, statistically valid and reliable, and curriculum relevant can determine and verify the existence of achievement above or below that expected according to potential. (WHAT a student knows.)
4. Assessment can determine HOW the student processes information to arrive at a solution to an academic and/or social situation. The purpose of this aspect of assessment is to discern whether academic and/or social strengths or needs are due to strengths or difficulties in attention and concentration, perception, coordination, memory, reasoning, organization, and

planning. Determining the HOW is a critical aspect of clinical assessment. A variety of formal, informal, standardized, and teacher-made assessment devices may be necessary to aid in this determination. Informal techniques and those such as clinical interviews can reasonably be used with students of other cultural backgrounds or who are learning in languages other than English, where standardized tests may not be readily available.

5. The completion of one or more behavior rating scales and/or the direct situational observation of the student can determine the level of socially appropriate skills.

The preceding assessments, observations, and ratings will form a diagnostic profile of the student. This information will aid the program planning team in decision-making. At the school level, program planning is the responsibility of the principal. At the minimum, the program planning team should include:

1. the principal or designate,
2. the parent and the student,
3. the regular classroom teacher,
4. any specialist support personnel who have assessed the student, or who may be able to assist the student.

The duties of the program planning team are to:

1. Review the student's current functioning including academic and personal/social aspects.
2. Review the student's potential to achieve.
3. Review the student's educational, personal/social and career aspirations, and what aspirations are held for the student by others, such as parents and teachers.
4. Itemize school program strengths and deficiencies.
5. Identify strategies to enhance specific strengths and to intervene for specific needs. Several options are available including modifying classroom teaching strategies, modifying the curriculum, and altering behavior management techniques.
6. Determine the appropriate setting in which to deliver the specific program modifications (maintenance in the regular

classroom, part-time resource room help, special class placement, special school placement). The placement options are determined according to the program needs of the student and the ability of the present setting to deliver the required program.

Continual monitoring and evaluation of student progress is required to ensure an effective and efficient program and to ensure that the program encourages the student to participate in the regular school environment whenever possible.

The model also provides for an appeal process to ensure that the parent, the student, and school jurisdiction personnel have every opportunity to articulate their opinions.

Relationship of Alberta Education Policy to Learning Disabled Students and to the Intervention Model

The Intervention Model

The intervention model described in Figure 1 (pages 3 to 6) reflects and incorporates Alberta Education's generic policy statement on program planning.

Phase I: It is important to reflect on the intent of the model outlined in Figure 1. Briefly, ongoing instruction by the teacher is seen to include attempts to resolve learning difficulties and social problems within the classroom through teacher-based assessment, altered teaching strategies, discussion with both the parent and student, and possibly an individualized educational plan.

Next, the teacher decides whether or not classroom-based techniques have been successful. If the adjustments were successful, regular instruction and ongoing monitoring is resumed. Should the adjustments not prove successful, the teacher, through discussions with the partners in educational planning (including the parent, principal, and student), would make a referral for a more comprehensive evaluation.

Phase II: The more comprehensive evaluation could include any appropriate personnel using diagnostic measures aimed at clearly defining the problem. The result of assessment should be the development of an individualized program plan to specify long- and short-term instructional objectives, instructional strategies, and materials. Such a program plan is still aimed at in-class teaching. This plan may be implemented in the regular classroom or in a more individualized setting in cooperation with the regular classroom teacher.

Success with the plan could see a return to typical procedures. However, recognition of further needs would require a further referral for a more specialized diagnostic evaluation, with another individualized program plan being developed.

Phase III: The use of a more specialized diagnostic team may result in choosing a more specialized setting in which to deliver a highly altered program. Success at this stage would see a return to more normal settings and techniques. Continued difficulties could necessitate further specialist consultation and program alterations.

It is important to note that the model can be adjusted for more immediate specialist consultation. As well, parental requests could supersede teacher referrals. Indeed, parents are encouraged to provide immediate information to teachers regarding their perceptions of their child's learning and social behaviors.

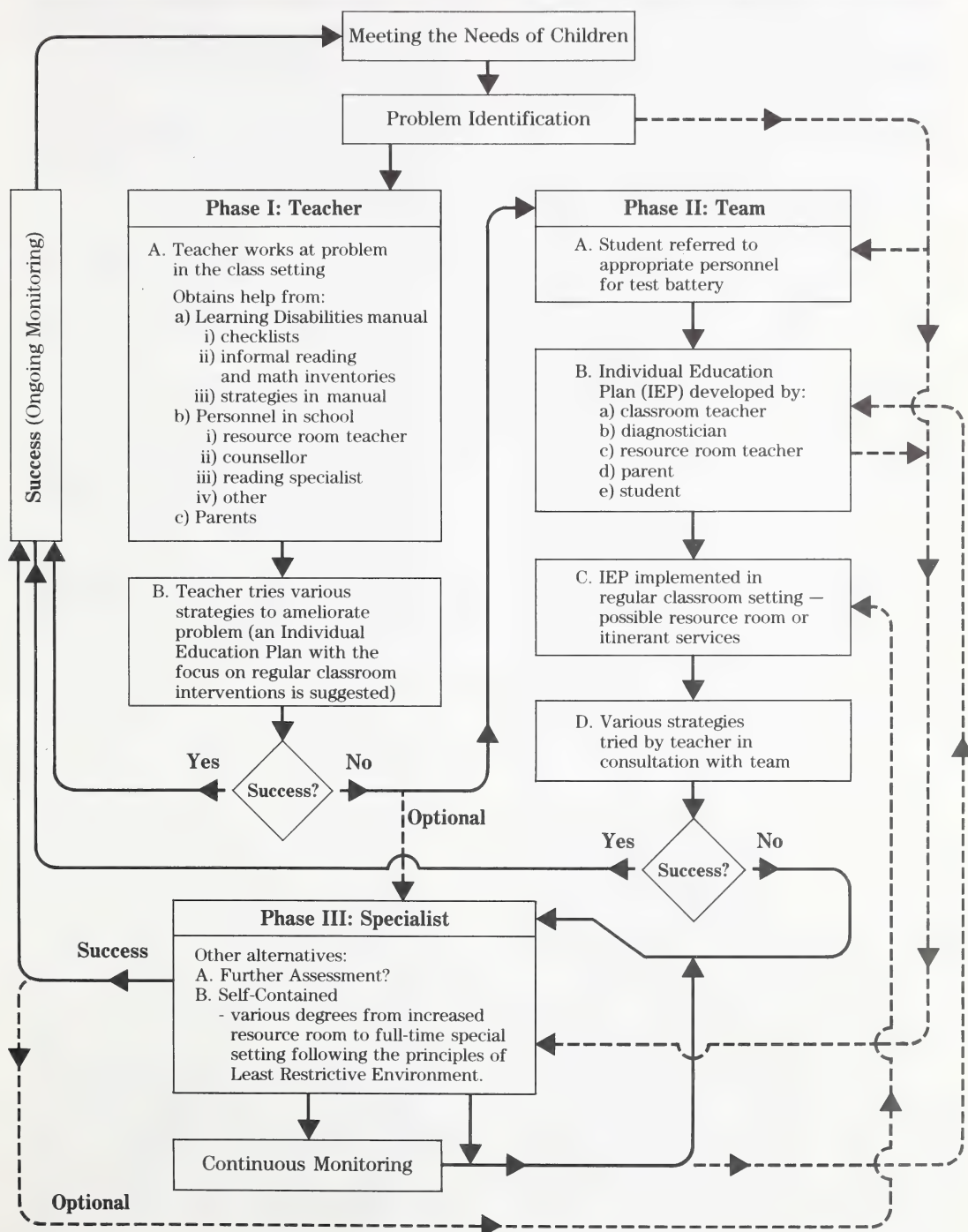
Screening Procedures

Screening mechanisms include teacher/parent checklists (a sample of a teacher checklist is contained in Appendix A), informal teacher-made tests (samples are contained in the content area sections of the intervention chapter), standardized group or individually administered tests (samples are contained in the content area sections of the intervention chapter and in Appendix B), teacher/parent consultation, and anecdotal data.

Three types of standardized group or individual screening tests, are typically used:

1. **Norm-referenced tests** are standardized tests that provide tables of norms for each grade or age-level. This type of test provides information on how each child's

Figure 1
Intervention Model for Manual



performance compares to those on which the test was standardized and allows inter-individual comparison. Remember that the comparison is against the performance of those children on whom the test was standardized. If your school or class are not representative of the standardized group, then the obtained scores will not be valid, but may still be reliable.

2. Criterion-referenced tests attempt to measure skills and knowledge in a specific content area and are not standardized on any particular group. The test is usually full of specific items that challenge a student's knowledge or skills in a very specific area (e.g., comprehension, word-recognition, spelling, arithmetic, etc.). The score obtained is **not** comparable to a specific standard or age group. Level of performance is determined by "number correct" and "errors" are noted for the specific purpose of evaluating, teaching of a specific concept, and the student's understanding of it. Teacher-made tests are criterion-referenced, the criterion being the objectives that the teacher had in mind to teach. It also tests the concepts the teacher taught. Any specific test made up for the purpose of checking on a student's skill or performance is a criterion-referenced test.

3. Strategy assessment devices also are being developed to help teachers gather information on the strategies used in content areas such as reading and mathematics.

Screening with group achievement and ability tests should be done with caution. Users should have a specific purpose for screening and be mindful of the validity and reliability of the instrument. As a result of screening, individuals would be identified for further assessment, provided there is a discrepancy between ability and achievement in one or more subject areas. It is important to consider the quality of instruction, degree of student attendance, and other attitudinal or extraneous factors that may cause a drop in achievement. Not all discrepancies between achievement and ability result from a learning disability. The data gathering steps to be taken at this point are described on pages 3 and 4.

After various tests and assessment devices have been administered, further data should be obtained from classroom observation, cumulative records, and teacher-made tests. The steps at this stage might include:

1. **Examining evidence from class records** regarding absences, illnesses, disciplinary exclusions.
2. **Examining cumulative folder data** for patterns of grades or marks in earlier years, school changes, teacher changes, family changes. Examples to look for include:
 - **Attendance.** Is there a pattern? On what days? How many days were missed? What subjects were missed?
 - **Teacher Changes.** Is there a change in grade with a new teacher? Any significant patterns regarding male versus female teachers?
 - **Teacher Grades.** Is there an unusual pattern for low or high grades? In which subjects? Is there a significant change in grades for a single year or teacher? Are there absence patterns in that year to account for it?
 - **Achievement Data.** Is there a pattern of low or high scores? In which areas? Is the pattern consistent? Check for years in which a significant growth or deficit occurred. Are there absences, teacher, or learning assistance factors to account for these changes? How much below grade average performance are the scores?
 - **Behavioral Patterns.** Are there notes of behavior problems? In which year(s)? What specific behaviors were noted? How would these behaviors affect class work? Were other students involved? Was the home contacted?
 - **Instructional Changes.** Do the records indicate any changes in regular classroom instruction? Did these changes result in any performance or grade change? In what direction?
 - **Family Changes.** Does the cumulative folder note any significant changes in family structure? Were grades affected at that time? In what direction?
 - **Medical History.** Any record of medical concerns, medical exams, medications prescribed? Any changes noted following medical examinations?

3. Examining and discussing observational data (by other teachers, resource teacher, or educational consultant) on appropriate curriculum materials, instructional approaches (directions, feedback, attention) such that it is clear that whereas other students are performing acceptably, this child has not learned what was taught.
4. Examining classroom report-card grades to determine whether there is a pattern of subject area strengths and weaknesses.

Before initiating any further school or teacher-based criterion-referenced testing, there should be consultation with the parent(s). While the chapter on parents as partners provides a more comprehensive approach, the following points should be considered:

1. Arrange a meeting with the parents so that they can examine the data thus far.
2. Ask for additional information that parents can provide (home factors, student medications, illnesses, home study skills, home behavior patterns, support systems, and so on). Such information sharing may provide additional evidence regarding achievement difficulties. (See sample questions provided below for the interview.)
3. Obtain family and health history, including vision and hearing tests.
4. Ask permission for additional teacher-made testing.

At this point, further testing on criterion-referenced measures may be necessary. There should be objective evidence that the child has not learned what was taught. In addition, observation data of the child actually attempting a task will assist in planning further teaching strategies and provide insight into ineffective processing strategies that the individual is using.

Sample Questions for Parent(s) Interview

General

1. What have you noticed about your child's learning difficulties, style of learning?
2. What does your child say to you about his/her feelings towards school, teacher(s), school work?
3. What changes have occurred in the home that may affect his/her concentration or motivation?

4. Has your child visited the family doctor lately? Is any medication being used?
5. When did you become aware of your child's learning difficulties?

Home-Study

1. What reaction do you see when your child is frustrated in his/her work? How do you respond?
2. When does your child study? For how long?
3. What does your child do while studying? Sit and stare? Scribble busily? Concentrate? Daydream?
4. Does your child require or ask for assistance? How do you offer help?
5. Where does your child study?

Home Patterns - Siblings

1. Are there other children in the family? How many?
2. Do the children cooperate with each other?
3. What responses do you hear when they talk to each other?
4. Do your older children assist the younger ones?
5. How do you respond to sibling rivalry? Competition?
6. Who has the responsibility for discipline? Homework?

Relating Screening and Identification to Learning Disabilities

To sort out the data collected thus far, use the checklist in Appendix A and refer to the conceptual framework of what constitutes a learning disability (Chapter I).

The key factors in deciding whether there is a learning disability are:

1. **Ability versus achievement.** Typically, learning disabled students have a greater potential than is demonstrated.
2. **How the student processes information.** Typically, learning disabled students have difficulties in one or more of the receptive, interpretative, or expressive modes.
3. **Developmental characteristics.** Typically, the learning disabled student demonstrates marked discrepancies across characteristics such as visual-motor integration, visual and/or auditory perception, sequencing, receptive and/or expressive language, and the kinds of activities the student pursues.

Informal Classroom Assessment Procedures

Following the initial screening steps, the teacher may decide to institute some informal classroom assessment, or, in the event that the difficulties appear serious, a more detailed assessment may be sought.

The content area sections of Chapter 4 describe formal and informal assessment procedures. The information gathered during the screening procedure has focused on the student's ability, achievement in school subject areas relative to peers, family data, health history, and peer/sibling relationships. This data should be checked to confirm teacher observations of in-class work. The

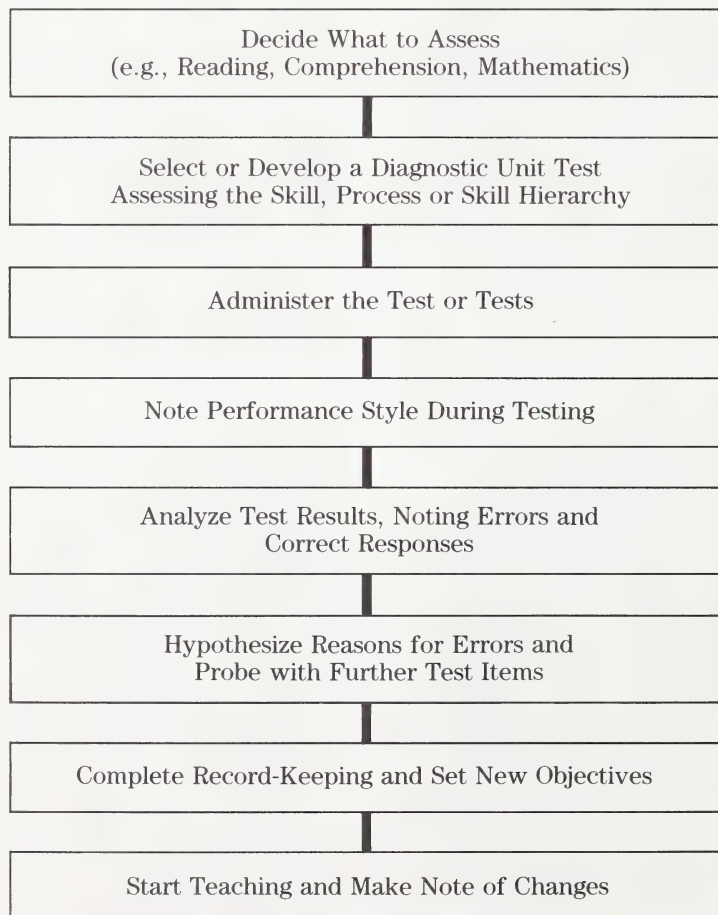
following evaluation steps are suggested for teacher use to collect and analyze information, and to make instructional decisions.

1. Testing

The classroom teacher can gain valuable information about a student's learning style, prior learnings, and common errors through the analysis of teacher-made unit tests or ready-made published diagnostic tests. Figure 3 delineates procedures that teachers can use to assess their students.

Once you have identified the concepts learned (correct response) and concepts not learned (error analysis), further probing can take place to verify your hypotheses regarding the learning problem.

Figure 3
Teacher Assessment Procedures



2. Probing

Following the administration of teacher-made or published tests, and during a break in error analysis, further probing can take place in a one-to-one setting or after school. Probing strategies take a considerable amount of time, and should therefore be reserved for those students who truly need such direct instruction. This phase of assessment also may be part of the "TEACH" phase of a "test-teach-test" model. Examples of probing strategies include:

a. Physical Guidance

- by modelling or assisting in the execution of the skill or problem
- by pronouncing difficult words
- by physically guiding the hand

b. Shaping

- reward first attempt
- cue subsequent correct response
- reward the next attempt
- cue subsequent skill or task success
- reward final product

c. Modelling

- execute the desired skill, behavior, task
- provide several examples, verbalize correct sequence
- have the student work with you on a parallel task

d. Match to Sample

- provide student with the correct answer from an array of answers, e.g., $4 + 3 = 7, 8, 9$ — select one
- or, by providing an example of a sample problem at the top of the writing sheets

e. Telling

- give the student the correct response

f. Cueing and Prompting

- by pointing, touching, partial modelling, giving hints

g. Feedback

- provide the student with knowledge of correct and incorrect behaviors

Use of teacher aides or parent helpers would greatly assist the teacher at this point. The aide or parent would work closely with the child and teacher pointing out those probing strategies that elicited successful performance.

3. Observing

While observations of student performance and behavior have occurred during the testing and probing sessions, the teacher may watch for more specific behaviors as outlined in Appendix A. This appendix outlines samples of behavior pertinent to social/attentional behaviors as well as to motor, academic, and cognitive behaviors relevant to effective learning. Teachers may want to develop similar checklists in their specific area. Observation data would then be used to develop teaching strategies that focus on the strengths and remediate the areas of deficit. Keeping a separate observation file for each student identified as having learning disabilities would assist other teachers and the parents, with whom this information could be shared.

4. Interviewing

The purpose of the interview is to address the question, "Do you like what you have learned?". Up to now, the major emphasis has been on the question of cognitive learnings by students, but teachers work toward affective goals too. A successful instructional program seems to create positive attitudes and feelings. A sample questionnaire could be constructed to find out about student attitudes. In addition, the oral interview is useful to determine the particular thinking that the student used to solve the problem. (See sections on Reading, Spelling, Mathematics for examples.)

5. Teaching

Having followed the informal assessment guidelines described here and elaborated on in the content area chapter, the teacher may utilize the information to plan appropriate programs for learning disabled students. Chapter IV covers this topic in more detail. It not only outlines general guidelines for teaching the learning disabled, but also highlights specific teaching approaches and strategies relevant to teaching the learning disabled student.

6. Following Up

Following the teaching phase of assessment, a follow-up of unit testing, observation, and interview would complete the teacher's overall assessment procedure. A few guidelines are suggested:

- a. Use the same or similar tests as in the pre-test situation. Analyze the results.
- b. Record scores from pre-test to post-test, following the teaching phase, noting any changes in performance.
- c. Follow up with an interview with the child and the parent or guardian regarding any improvements in learning, attitudes, and behavior.

Referral Procedures

If attempts to modify the learning environment prove unsuccessful, the parent(s) or teacher should refer the student for more intensive diagnosis. Some of the steps for the teacher in making a referral are outlined below. A sample referral form can be found in Appendix E.

- Step 1:** Notify the parents, principal (or other team members) of the decision to refer for further assessment. Obtain parental permission for testing, and request an assessment by a team of specialists, which may include (a) curriculum specialists, (b) school psychologists, (c) medical specialists.
- Step 2:** Decide what information is required from these specialists. Be as specific as possible.
- Step 3:** Collect and organize all information available from the screening process. Fill out any required forms.
- Step 4:** Make the referral.
- Step 5:** Set up a meeting with the consultants to explain the information already available or to gain new insights about the information from the consultant.

Step 6: Discuss with the consultant the evaluation of any previously attempted remedial strategies. Include observations regarding the student's task performance, behavioral style, social/emotional reactions, and specific task difficulties.

Step 7: Be available for further consultation following assessment.

Step 8: Be willing to set up a case conference, with parents present, following the assessment.

Step 9: Request additional assessment should the current one not meet the needs of the student, parents, or yourself.

Step 10: Should #9 be needed, follow the same steps as noted above.

While these pre-referral steps seem lengthy, they will help the student, the teacher, the parent(s), and diagnostician in developing more effective student programs.

Communication among parents, teachers, and the diagnosticians becomes crucial to referral and assessment. Chapter V provides more detailed information on parent/teacher communication.

Note: Parents may initiate a referral, or they may suggest additional questions for the diagnostician. Provision for parental referral should be included in the operating procedures for all school jurisdictions. Parent referrals should be handled in the same manner as teacher referrals.

The Specialist's Involvement in the Assessment Process

Since the teacher may already have given the child one or several achievement tests (formal or informal), the specialist may choose not to assess this area further, but to use other special psychological instruments. At this stage it is assumed that the diagnostician will have available: (1) screening data, (2) history and health data, and (3) information from teacher observations and informal assessment.

The test battery used by the diagnostician will depend on the nature of the referral question as well as on the individual characteristics and needs of the student being assessed. Teachers should inquire of the diagnostician the tests used and the nature of the information provided in the assessment.

Information that teachers should expect and seek following an assessment by a specialist includes:

1. Ability Level and Processing Style

- Is verbal IQ higher than performance IQ? Why?
- Is performance IQ higher than verbal IQ? Why?
- What special abilities are weak? Strong?
- What modality of learning is weak? Strong?
- How would process or modality affect achievement test results?
- How did the child compensate for weaknesses in processing information? Did the student use his or her strong suit?
- Did the child appear to profit more from tightly structured, highly organized instruction and materials as opposed to a more generalized approach?
- Did the student use a consistent trial-and-error approach to problem-solving?
- Might the student benefit from special teaching strategies? Which ones?
- What can I do in the classroom to teach to the student's strengths?
- Does the student have the ability to cope with the classroom work? In all or some subject areas?
- What are the visual strengths?
- What are the auditory strengths?

2. Perceptual/Auditory/Visual Processing

- Can the student see and hear what is presented?
- Can I expect the student to understand my teaching vocabulary?
- How should I change my language? Instructions?
- Can the student copy adequately from the blackboard?
- Should the student be moved closer to the teacher?
- Does the student need training in eye-hand coordination? Pencil grasp?

- Does the student need training in visual discrimination? Auditory discrimination?
- Does the student need more time to learn visually? Aurally?
- Do I need to slow down the pace of teaching?

3. Nature of Oral and Written Language

- Can the student understand and use words at his or her age/grade level?
- What is the student's difficulty in writing sentences?
- How can I assist the child in improving his or her spelling? Writing?
- Did the student have trouble retrieving words during oral expression?

4. Social/Emotional Adjustment

- Is the student's frustration level too high when asked to learn a task?
- Is the student's self-image strong? Weak?
- How can I strengthen the child's self-concept?
- Does the student need counselling?
- How can I assist the student in making friends?
- How does the student cope with frustrations? Failures? Successes?
- How can I help this student become more relaxed? Reflective?
- What should I do if the student acts out, shouts, or bothers other students?

5. Attention and Concentration

- How can I teach my lesson to capitalize on the child's level of concentration?
- How long should the ideal lesson be?
- Why is the student having difficulty attending?
- How can I assist the child in organizing his or her work?
- Is medication needed to control hyperactivity?
- How can I improve the student's tendency to become distracted?
- How can I improve the student's memory for facts? Instructions?
- Do outside noises distract the student or are the distractions internal?
- Did praise improve attention? How should I use praise effectively?

6. Teaching Strategies

- What method of teaching will work for the child?
- How can I get the student to finish his or her seatwork?

- Is there a curriculum best suited to his or her learning style?
- Will the student respond well to a peer tutor?
- How should I organize the material to be learned?
- What mode (visual, auditory, kinesthetic) does the child use most in learning a task?
- Will the student benefit from large group instruction?
- What might be an ideal length of a lesson for the student?

Answers to these and other questions will assist the teachers in lesson and unit planning. Specialists may not have all the answers, but some new strategies should come forth and be found helpful. Parents could also provide insights. When used as a guide, these questions should assist teachers in obtaining constructive information from team members involved in the assessment. Case conferences are the usual means of obtaining and presenting information. While the term "case conference" has medical overtones, the important point is that parents and personnel get together to discuss the information gathered on the student.

Program Planning: A Team Effort

The principal is responsible for setting a time and date for a general case conference in which assessment findings are presented and educational recommendations suggested. Parents are an integral part of this conference. It is suggested that a time be set so that both parents (if applicable) can be present. From the teacher's perspective, it is important that the following principles be followed:

1. All test data, observations, and insights are shared openly with all parties.
2. The teacher(s) outline the nature of classroom interventions that have been tried.
3. Parents have access to all information which is presented in an easily understood manner.

4. Both parents and teachers have specific educational strategies to implement, and an Individualized Educational Plan (IEP) is written outlining these strategies.
5. The possibility of a school-home learning liaison is discussed and follow-up implemented.
6. Technical test data is explained in a way that is readily understood by all.
7. A mutually convenient time for re-evaluation of the intervention program is established.

The case conference or meeting of the partners involved in educational program planning is a key component. To review: program planning has a number of components and involves a series of steps that lead to the delivery of necessary student-orientated programs.

Steps in Program Planning

1. The first step of program planning is the identification and verification of student needs in academic, personal/social, and career development areas.
2. The second step is the setting of long-term objectives across the three domains of academic, personal/social, and career development. These long-term objectives are further specified in the form of short-term objectives which are stated in quantifiable terms that are easy to evaluate.
3. Step three involves the description of needed materials, instructional techniques, and personnel requirements. This fits tightly with the conceptualization of a learning disabled student and the potential need to modify either the instructional process, the materials, and/or the learning environment.
4. Step four involves a team decision to determine the setting in which the program should be offered. This decision is based on the information gathered in steps one through three. It includes reference to the personal/social needs and the educational needs of the student as well as the long-term career aspirations held by the student. In addition, the decision is made in the context of choosing the least restrictive setting in which to deliver the greatest amount of individualization and specialized instruction necessary to meet

the needs of the student. **PLACEMENT DECISIONS SHOULD BE BASED ON PROGRAM NEEDS — NOT ON LABELS.** Parents, the student, regular and special class teachers, specialists, and the administration are key members of the team decision group. The Cascade Model outlines one approach to providing the least restrictive setting. Briefly, the Cascade Model, as found in the Special Education Program of Studies, advocates the provision of a continuum of placement options to meet the needs of the student.

5. Step five relates to procedures designed to provide continuous feedback on the effectiveness of program and placement decisions relative to the student's academic, personal/social, and career development needs. The intent of these decisions is to improve academic coping skills and performance, student self-concept and confidence, and student-peer relationships; and to enhance movement towards a meaningful and self-fulfilling life career.

This continuous monitoring and evaluation must be specific and provide for periodic formalized decision review points. These decision review points result in continuous program and placement alterations to ensure program effectiveness.

Evaluation

Evaluation of programs, materials, and instructional strategies is a necessary part of teaching the learning disabled. Evaluation

serves to monitor individual as well as program effectiveness. Although evaluation procedures are often left to specialists, this section will focus on what the teacher can do in evaluation. General evaluation procedures, areas for evaluation, and methods for conducting an evaluation are outlined.

Questionnaires, interviews, observations, year-end standardized tests results, checklists, and teacher-made unit tests can be used systematically to collect data pertinent to the evaluation of students and programs.

Although program evaluation assesses the broader context of education, the procedures are the same as those used in the diagnostic stage of the "test-teach-test" model (see Figure 4).

Monitoring the learning of students is not an impossible task. Evaluation of student performance has been a typical school routine. Student progress is measured at the beginning and end of each school year and before each grade report. This system, however, does not provide teachers with enough information to assist them in selecting appropriate instructional activities. Neither does it provide immediate feedback about the effectiveness of teaching procedures. More thorough and precise evaluation methods are necessary for the learning disabled.

Teachers of regular classes, learning assistance classes, resource rooms, and adaptation rooms can monitor the behavior

Figure 4
Evaluation Model

Assess	Teach	Evaluate
Gather information on the student from: <ul style="list-style-type: none">- standardized tests- teacher-made tests- observation- interviews with significant others in the student's life- questionnaires given to significant others in the student's life	<ul style="list-style-type: none">- prepare objectives- select materials- determine strategies; then probe, re-teach, modify, re-teach, re-assess	Gather information on student outcomes based on: <ul style="list-style-type: none">- standardized tests- teacher-made tests- observations- interviews- questionnaires judge amount, degree, and type of change- continue to monitor progress

and learning of students in a systematic way throughout the year. Evaluation must be ongoing so that immediate feedback is possible about a particular instructional strategy. The learning disabled cannot afford to lose valuable instructional time because of the prolonged use of ineffective teaching strategies or delayed year-end evaluations. Every teacher who has a learning disabled child in his or her classroom can utilize the following procedure of systematic data collection for evaluation purposes.

1. Anecdotal Logs. Keeping daily records of student behavior, change, problems, new insights is very time-consuming. Focus on those students identified as learning disabled. A sample log may be as follows:

Student Behaviors	Response to Instruction	Situation
<ul style="list-style-type: none"> - attentive - works quickly 	<ul style="list-style-type: none"> - can follow directions - few errors on quiz 	<ul style="list-style-type: none"> - teacher speaking directly to students and writing notes on overhead
<ul style="list-style-type: none"> - out of seat - looks lost 	<ul style="list-style-type: none"> - forgets instructions - frequent errors on task assignment 	<ul style="list-style-type: none"> - teacher presents assignment for classroom without verbal explanation

2. Antecedent Behavior Analysis (ABA).

Note in the daily records: (a) antecedent events (preceding the behavior in question), e.g., John whispers; (b) the target behavior in question, e.g., Steve clowns; (c) events occurring as a consequence, e.g., class laughs. If Steve is consistently “off-task”, events occurring before and after off-task behavior may be very helpful in considering intervention for Steve.

3. Frequency and Error Analysis. Simply count the frequency with which a given response, lack of response, or a given behavior occurs. The number of questions asked, times out of seat, correct mathematics problems, and the number of errors in reading can also be measured through frequency data. An individual evaluation procedure in reading, for example, can assist teachers to note common errors such as difficulty with consonants, blends, digraphs, prefixes, repetitions, reversals, and word meaning. Noting not only frequency but “type” of

errors is very useful in evaluating instruction. Specific instructional strategies could be implemented immediately following an error analysis.

4. Duration Data. Often it is equally as important to note how long a specific behavior lasts as how many times it occurs. Duration of **attention span** is often the most valuable information to observe. Many learning disabled students have a short span of attention and concentration. Instruction geared to attention-time can be regulated immediately to effect better learning.

5. Speed of Performance. Timing the speed of performance of learning disabled students is very valuable. Not only should

“time to completion” be noted, but correct responses to error rate within a specified time period should be observed. Both quality and quantity of student performance is assessed in this way. Many learning disabled students work impulsively with high error rate. Others work slowly with high or low error rates. This data has implications for cognitive learning style. Clinical teaching strategies which use cognitive mediation techniques to produce a reflective learning style are described in Chapter IV, Part 1. Such strategies could be directly implemented, observed, and evaluated.

The evaluation strategies suggested here are the simplest ones to implement and can be used by every classroom teacher. If teachers utilize the strategies suggested here for regular compilation of formative evaluation data, intervention can be modified on a continual basis.

The Program Plan

An Individualized Education Plan (IEP) or Individual Program Plan (IPP) is a statement of what will be provided to the student.

An IPP serves the following purposes and functions:

1. A written commitment of resources necessary to meet the needs of the exceptional student.
2. A compliance/monitoring document to ensure the student receives the appropriate education agreed to by the parents and the school.
3. A formal communication vehicle between parents and school personnel to enable these equal participants mutually to decide on the student's needs, the appropriate program, and anticipated outcomes.
4. A focal point for resolving such differences as may exist between the parents and the school.
5. A management tool to ensure students receive the special services and programs appropriate to their learning needs.
6. An evaluation device to determine the extent of the student's progress toward meeting the projected outcomes.

It is suggested that the IPP be developed by a team composed of the representative(s) of the educational agency, the student's teacher(s), the student's parent(s) or guardian(s), the student, and other individuals at the discretion of the team. The finished IPP product should, as a minimum, include the following components:

1. A statement of the present functioning level of educational performance of the learning disabled student.
2. A statement of annual goals including short-term instructional objectives.
3. A statement of the specific special program and related services the learning disabled student is to receive.
4. A statement of the extent to which the learning disabled student will be able to participate in the mainstream.
5. The projected dates for initiating services and the anticipated duration.
6. Appropriate objective criteria, education procedures, and schedules for determining on at least an annual basis whether the long-term objectives are being achieved.

However, it is the use of a team of people to develop the IPP that is the most important aspect of true program planning.

7. An explanation of each modification to the instructional process, curriculum, or learning environment.

Developing an individualized education program involves a partnership. Communication about the perceptions of each partner is based on the realities of the situation and is a key component in developing mutual understanding and respect.

Some key questions to be addressed include:

1. What does the student, parent, teacher want to accomplish?
2. Are these goals realistic?
3. How can the partners work together to accomplish these goals?
4. What is the level of commitment by the student?
5. What resources are necessary to effect these goals?
6. What modifications to instruction, curriculum, and/or learning environment are necessary to meet the needs of this learning disabled student?
7. What setting is best to deliver these resources?
8. How does each partner view the strengths and weaknesses of the student? Each person's views are important and should be accommodated in the total program plan. Naturally, compromises will be necessary. However, open communication, coupled with continual monitoring which results in necessary refinements, typically assists the partners in accepting necessary compromises.

The IEP or IPP as a product simply states what has been determined, verified, and agreed upon during the process of team communication. The goal of program planning is the desired enhancement of student functioning by developing an individualized program. The product or IPP statement simply documents the process. It is the responsibility of the principal to ensure that a program plan is written.

School Program Planning

The school may wish to select a program planning team to address individual student needs. The team is led by the principal who is ultimately responsible for student and school programs. The principal ensures that following teacher/parent/student referral of an educational, personal/social, or career need, the relevant individuals are brought together to address the referral question(s) and to determine whether other issues exist. These individuals vary according to the student and the issue. However, typically included would be the principal or designate, the teacher, the parent, the student (where applicable and appropriate), any specialists involved in the case, and a representative of any other setting being considered.

Several educators have concluded that the IPP has the potential of being the key to a more individualized and specified approach to education, increasing the accountability of educators, and the sharing of decision-making between teachers and parents. The challenge is to ensure that the IPP does in reality become an "individualized educational program" and not some other misnomer such as "increased educational paperwork."

Appendix C contains three sample individualized program plan forms. The formats provided should be viewed as samples only. Further information is contained in the Alberta Special Education Handbook (1982).

The following provides some sample questions regarding the quality of the process involved in developing an individualized program plan and the quality of the actual written document.

1. Were student strengths and weaknesses identified, verified, and stated in quantifiable terms?
2. Were needed resources identified?
3. Was there a commitment to provide necessary resources?
4. How many students use IPPs?
5. How are the IPPs implemented?
6. Who has the responsibility for writing? For monitoring?
7. In what subject areas are IPPs prepared?
8. In which environment (regular class, resource room) are students receiving IPPs?
9. Were parents involved?
10. Was a team discussion held?
11. Who constituted the team?
12. Were instructional objectives stated?
13. Were sufficient materials available to achieve outcomes?
14. Was communication perceived to be effective by parents, students, and teachers?
15. Was the present functioning level stated?
16. Were specific short-term goals stated?
17. Was a long-term plan stated?
18. Is each educational need associated with at least one instructional objective?
19. Is implementation time sufficient?
20. Assessment of objectives. Are teacher-made test items sampling relevant objectives?
21. Results of the teacher-made tests. Are the students mastering the objectives? Is the functioning level stated?
22. Teacher ratings of objectives in social, emotional, and behavioral areas. Are students experiencing success? Are attitudes to learning positive?
23. Did the students achieve the desired outcomes?
24. Were necessary resources provided?
25. Were educational, personal/social, and career development needs of the student considered?

Evaluating Instructional Materials

In addition to evaluating individualized program plans, and the student, other crucial areas for the learning disabled student are the materials and the nature of instruction.

The following checklist will assist in evaluating curriculum and instructional materials.

1. Consider the characteristics and nature of the materials.
 - a. State curriculum used, publisher, level.
 - b. Indicate if objectives are available.
 - c. Are objectives in operational form?
 - d. Do objectives flow from a conceptual framework?
 - e. Is material appropriate for the students?
 - f. Indicate where improvements are needed.
 - g. Do materials portray ethnic/minority groups in a positive manner?

2. Consider the appropriateness of the scope and sequence of the materials to the learning disabled student.
 - a. Is a sequence recommended?
 - b. Does the sequence produce desired learning?
 - c. Is the scope inclusive of curriculum objectives?
 - d. Are sections or units that need to be taught, omitted?
3. Consider the methodology and approaches to teaching and their relevance to the instructional needs of the learning disabled student.
 - a. Are methods suggested?
 - b. Are they explained in sufficient detail?
 - c. Are methods matched with student readiness?
 - d. Are methods relatively straightforward?
4. Consider the process of student evaluation and its relevance to the learning disabled student.
 - a. Are procedures provided in the materials?
 - b. Are procedures available at different levels?
 - c. Are procedures compatible with objectives?

Negative response to any of these questions would indicate that the instructional materials are not adequate and alternative materials should be sought.

Teacher Self-Evaluation

Teachers should examine their own competencies and teaching behaviors.

All teachers should, of course, have a general knowledge of child development and curriculum. Teachers should also know about:

1. Formal and informal assessment procedures in all academic and social areas.
2. The variety of intervention procedures relating to #1 above.
3. The characteristics of exceptional individuals and the implications for learning in the classroom.
4. The impact on parents of having an exceptional child.
5. The relationship of self-concept and learning and its particular importance for students with a learning disability.
6. Evaluation procedures for classroom instruction, program, and material evaluation.

Consideration of the following questions may help teachers judge their teaching behavior:

1. Do I utilize student ideas?
2. What is the ratio of teacher talk to student talk in my class?
3. Do I maintain classroom control?
4. Do I organize my lessons?
5. Do I have skill in relating to students?
6. Is my lesson explanation clear?
7. How often do I provide praise?
8. How often do I criticize?
9. Do I provide feedback?
10. Do I use effective questioning techniques?
11. Do I state the objective for the lesson clearly?

Appeals

If this recommended procedure for program planning is followed, the need for appeal will be greatly reduced. As well, where appeals do take place, the school jurisdiction will be perceived in all likelihood, to have done its "homework" to ensure that parents, students, and educators have had access to "natural justice."

Under provincial policy, all school jurisdictions are required to provide for a local appeal process. Teachers should check with their school board office to obtain a copy of the local appeal process.

Summary

This chapter:

1. outlines Alberta Education policy on program planning,
2. describes the relationship of Alberta Education policy to learning disabled students and the intervention model,
3. describes the program planning process including screening, assessment, referral, the program plan, and continual monitoring,
4. notes the importance of addressing modifications to instruction, curriculum, and the learning environment,
5. notes the importance of considering teacher self-evaluation.

Teacher Resources

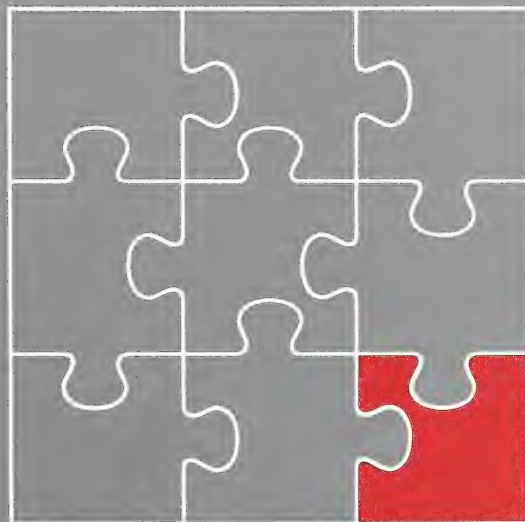
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Chapter IV

Intervention



Chapter IV

Part 1

Teaching Strategies Process and Content

This chapter provides an overview of numerous teaching approaches, strategies, assessment practices, resource materials, and evaluative techniques. The chapter is not intended to list all available information, nor is it intended that teachers will use all of the suggestions. Many sections provide an introduction only to techniques and materials, and the reader is referred to other sources if further training is necessary.

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Chapter Four: Part 1

Teaching Strategies, Process, and Content

Introduction

This section deals with generic approaches that are best integrated with actual instruction in a content area. Generalization of skills, which is a major difficulty for the learning disabled, must be built into the teaching of new concepts and integrated across content areas.

Matching Instructional Strategies to Educational Needs

The diagnosis of a learning disabled student frequently includes problems with “attending”. The following strategies serve to increase or maximize attention:

1. **Reduce stimulus complexity.** Learning disabled students are frequently overloaded with information because of fatigue, slow processing, distractibility, or attention to irrelevant details. The teacher should therefore give the student fewer bits of material to look at or listen to at once.
2. **Reduce response competition.** Learning disabled students are often distracted by multiple stimuli and hence respond to an inappropriate question or item. The teacher should cluster the information, reinforce or repeat the information to be attended to, and teach one concept at a time.
3. **Use attention-sustaining explanations.** It is important to emphasize visually and verbally distinctive features of the task, and to allow for greater explanation time.
4. **Increase wait-time response.** Learning disabled students frequently need more time to process information. The teacher should allow at least a five-second delay before a child answers, and increase the time allowed for assignments. Also, verbal rehearsal should be taught directly and opportunities to use this skill should be provided.
5. **Provide teaching guidelines.** Some learning disabled students require concrete aids for processing information. They have difficulty generating their own ideas and considering alternative solutions. For these students, the teacher should give the rules before the examples, teach and re-teach pertinent facts and ideas, and structure lessons carefully.
6. **Build generalization into tasks.** Often a new concept is learned and immediately or shortly thereafter forgotten. Teachers should cue generously to aid recall, teach generalizations directly, and use many varied examples to increase application and generalization. They should use a consistent reinforcement schedule at first, and then change to a delayed or intermittent system.
7. **Use metacognitive techniques.** Many learning disabled students do not know “how to learn” or how to go about learning. Efficient learning strategies must, therefore, be taught directly. Strategies include:
 - a. Writing reminder notes.
 - b. Stopping to think of alternatives before answering. (The teacher instructs the student to do this.)
 - c. Teaching study skills directly.
 - d. Teaching the student to plan ahead for assignments.
 - e. Teaching the student to imagine the material, before recalling it.

- f. Teaching self-verbalization skills.
- g. Teaching the student to scan material before deciding on an answer.
- h. Having the student watch or listen to others before responding.
- i. Training students to detect their own mistakes.
- j. Using question techniques during reading to aid recall.

These strategies and others are described further in following sections of this chapter. Teachers may wish to keep a record of strategies that seem to produce positive results and use tests to verify their own observations.

The Use of Technology

A variety of technological devices can aid the teacher in programming for students. While technology can help teachers, it cannot replace the teacher-student interaction. Each device has advantages for particular teaching areas and types of disabilities. Teachers should consider:

micro-computers
tape recorders
video cassette recorders and cameras
laser discs
media equipment
calculators
home movie cameras
photographic equipment

Use of these devices can have a number of benefits for students. Computers can be highly motivating for learning disability students. They may be more willing to engage in routine drill and practice exercises when these are presented on a computer. In addition, there are some computer software packages which teach problem-solving and facilitate focussing of attention.

Seeing a film may motivate students to read the novel upon which it is based. Learning to operate media equipment can help students to become more independent in their learning. Knowledge of the technology can free students to initiate, carry through, and check their work. Problem-solving and organizational skills can

be taught using technological means, through teaching students to organize projects involving film, video, or computers.

More specific examples of the use of technology can be found under the specific sections reading, written expression, oral language, spelling, mathematics, and social skills. Care must be used when selecting remedial software programs that they are age and interest appropriate to the student. A program designed for elementary children may have appropriate concept development for adolescents, but be presented in a manner unacceptable to the older student. The Curriculum Branch Clearinghouse of Alberta Education evaluates software packages for use in the Alberta curriculum and with exceptional students, including Guidelines for selection. The Clearinghouse can be reached by contacting Alberta Education.

Structured Teaching Approaches

Diagnostic Prescriptive Teaching

Diagnostic prescriptive teaching uses diagnostic information to modify educational programs for children. Diagnostic prescriptive teaching involves both moving out of and into education. The "moving out" method involves referral to psychologists, psychiatrists, social workers, speech therapists, medical practitioners, and others. "Moving back into" education involves establishing the disability's influence on learning and preparing a prescription for teaching (Peters, 1965).

Diagnostic prescriptive teaching involves a multidisciplinary team approach to assessment and intervention. The information gained by the teacher, other professionals, and parents assists in planning appropriate programs. This approach is based on a communication circuit in which each phase prescribes the succeeding phase (Peters, 1965).

The four phases are:

Phase 1, Referral. The teacher observes the child and decides that assistance is needed to diagnose and understand an emotional, social, physical, or intellectual problem. A referral is made to the school psychologist. A case study is conducted involving relevant personnel. The diagnostic findings are translated into a prescription for teaching.

Phase 2, Reporting. Recommendations regarding modification of instruction and other aspects of the school program are discussed with the teacher and others responsible for the child's education.

Phase 3, Implementation. The teacher and other school personnel implement the prescription by modifying certain variables in the educational program.

Phase 4, Follow-up. The student's behavior is observed to determine whether the modifications have been successful. If the desired learning is occurring, the follow-up directs feedback to the area of implementation. If the desired learning is not occurring, the follow-up directs feedback to the area of diagnosis, and the process continues through the phases leading to further modification.

Diagnostic prescriptive teaching emphasizes the role of the teacher in all phases, especially in providing an adequate educational program that considers the total dynamics of the student. Smith (1983) outlined the following eight steps that demonstrate how the teacher uses assessment results:

1. Objectively observe and analyze the student's classroom abilities.
2. Objectively observe and analyze the nature of the student's successes and difficulties on different types of tasks.
3. Scrutinize the characteristics of alternative tasks and settings.
4. Compare and contrast how information gained from step 3 might interact with the observations in steps 1 and 2, so as to result in more favorable achievement.

5. Consult with the student whenever possible, present the choices for modification, and decide together which ones to try.
6. Set short-term goals.
7. Make the modifications and teach.
8. Evaluate progress after a reasonable time interval; if successful, continue teaching similar but higher-level objectives; if unsuccessful, retrace steps 1-7.

This process involves a good deal of clinical intuition. The teacher's way of analyzing the student's needs, matching tasks accordingly, and deciding among instructional and service delivery options may reflect several instructional models (Smith 1983). However, the most important thing is that the model used motivates and produces the learning that is desired.

Precision Teaching

The initial impetus for the development of precision teaching was an attempt to meet the needs of children (as reported by teachers) in special education classrooms.

Precision teaching requires recording daily the frequencies of a variety of specified behaviors on standard charts. These comprehensive charts encompass a cycle design which facilitates the recording of the number of behaviors occurring, ranging from once a day to approximately once a second. This method facilitates sharing and communicating the data with other teachers and administrators. It also provides an ongoing, objective reporting system for parents, and a method for teachers and students to determine the outcome of the implemented procedures.

Using the standard chart, educators develop a personalized curriculum. This system also provides for individuals to become actively involved in selecting instrumental materials and charting their own progress.

Precision teaching involves direct assessment and education programming focussing on the improvement of behavior. It involves four aspects: pinpointing the behavior to be worked on, setting objectives (criterion), using rates as the measurement unit, and charting daily progress. The teacher first uses direct assessment through analyzing the errors the student makes, as

well as observing the student performing the task, to pinpoint the behavior to be changed. Then, aims or objectives are set out in observable terms (e.g., the student will complete ten questions of a specified type in two minutes with 100% accuracy). The teacher then sets the measurement unit to be used and the criterion for achievement, including a baseline performance of what the student can do at present. The teacher then implements instruction and charts daily progress. Students may also chart progress themselves.

Task Analysis

For efficient instruction to occur, specific objectives and behavioral goals must be sequenced. Lists of goals and objectives can be helpful to teachers in deciding what will comprise the student's instructional program. The purpose of task analysis is to determine the priority of goals and objectives, and provide a plan for the sequence of instruction.

To identify specific instructional objectives and goals, the teacher conducts an evaluation to determine the student's level of achievement; learning characteristics; and motor communication, sensory, social-personal, and cognitive performance. This evaluation establishes what skills have been mastered and which learner characteristics will assist or impede acquisition of new skills (Bain, 1983).

Once specific skills to be acquired are selected and priorities set, instructional objectives can be developed. Task analysis is used to obtain the information used to write the objectives. Task analysis involves "identifying the minimum essential standards of performance required to perform in a normative manner in the least restrictive environment" (Bain, 1983, page 67). The purposes of task analysis are:

- a. to identify common errors so as to design instruction to avoid them, and
- b. to identify different methods by which the student completes the task, in order to select the simplest.

The information obtained from analyzing the student's performance is used to refine instructional objectives.

Results of the analysis are often summarized in a flowchart. Rectangular shapes indicate the sequence of steps involved in performing the instructional objective, while diamond shapes indicate the occurrence of various conditions.

After the simplest method of performing the task has been selected, a skills analysis is conducted to determine what skills a student will require to enable him or her to perform each step in the task. This is done by collapsing the steps in the flowchart onto the ridgeline of a lattice, thus providing a graphic display of the instructional sequence. The teacher identifies the skill to be developed as precisely and specifically as possible. The prerequisite skills, those expected before instruction is initiated, are specified. The actual skills to be taught is then broken down into small teaching units or component parts. The lattices are only blueprints for instruction, and usually do not indicate what instructional techniques or aids will be used. However, task analysis does provide an instructional sequence that can assist the teacher in planning instructional objectives for particular students.

Teaching Process and Content

Time schedules, multiple content areas, year-end examinations, and pressures to have students achieve may lead to a focus on actual subject matter as opposed to the cognitive processes students use to complete their work. As well, the way students feel about their work and themselves may not be a consistently high priority.

For example, in the area of reading, knowledge of the word (its meaning and how to recognize it) is important. Also, at the end of a story it is important to know who was in the story, what they did, why, how the story ended, what was the most important idea, and what led to what. These are content ideas.

Systematically helping students find ways to monitor their own reading and use strategies to improve their word knowledge and comprehension is equally important. Pointing out to students what a main idea is,

and how to find it helps students identify the main idea in a particular story. Other important teaching activities are helping students to focus their attention; teaching students to use strategies/skills such as scanning forward, scanning backward, and noting semantic and syntactic cues, visual imagery and title; underlining and note-taking; asking questions; forming hypotheses; making predictions; sensing mood; and recognizing relevant cues.

These strategies/skills, which involve the processing of information, are transferable across content and social areas. Having the skill to process information by having a particular strategy readily available enhances the student's ability to deal with new learning. Learning disabled students have been found to benefit from this type of teaching.

Teaching these strategies/skills as well as the content enhances the ability of all students to benefit from present and future learning. Improved processing strategies are believed to lead to improved achievement, as well as to more positive feelings about the subject matter and learning.

Cognitive Education

Teaching process as well as content is called "cognitive education". This section describes cognitive education, which attempts to teach self-monitoring of generic cognition (metacognition).

There has been a flurry of educational programs for the training of intellectual skills. These programs emanate from the work of Piaget, Luria, and Vygotsky. Research conducted by several theorists have challenged the typical educational practices found in classrooms.

A growing body of research indicates that learning disabled children do not use active strategies for learning or problem-solving, and their passive approach to learning has been documented in numerous studies.

The following are four samples of cognitive education intervention approaches or programs. They are included to reflect the present range of thought in the area of cognitive thinking. Specific training in their use is required, but such training is readily available in Alberta.

The Feuerstein Program

Instrumental Enrichment (Feuerstein, 1980), which can be integrated within the regular school curriculum, is an intervention program using paper-and-pencil exercises. Students receive from three to five hours of Instrumental Enrichment per week extending over a period of two to three years.

The paper-and-pencil instruments are called: Organization of Dots, Analytic Perception, Orientation of Space I, II, III, Comparisons, Categorizations, Instructions, Family Relations, Illustrations, Numerical Progression, Temporal Relations, Stencil Design, Transitive Relations, and Syllogisms. These instruments are designed to be content-free.

The major goals of Instrumental Enrichment are:

1. Correcting of deficient cognitive functions.
2. Teaching specific concepts, operations, and vocabulary required by the Instrumental Enrichment exercises.
3. Developing awareness of one's potential and/or abilities, and the spontaneous use of an operational type of thinking.
4. Developing awareness of one's thought processes.
5. Becoming an active participant and generator of information.
6. Becoming motivated, not only within an academic sphere, but within a broader social context.

The Feuerstein Program has been inferred to be effective, based on recent research, in increasing school achievement, social skills, intellectual skills, and motivation to learn. Feuerstein's methods have also been adapted to teaching other types of programs, such as LOGO, computer literacy, and programming.

De Bono's Teaching of Thinking

De Bono (1976) defined thinking as deliberate exploration of experience for purposes such as problem-solving, planning, and/or decision-making. De Bono emphasizes the importance of acquiring lateral thinking methods for problem-solving and information restructuring, and he points out the difference between vertical thinking and lateral thinking. According to de Bono, the teaching of thinking is related to the teaching of perception, not logic. Using this theoretical framework and a broad perceptual sweep which enables one to perceive, direct attention, and extract relevant information and subsequently restructure the information into meaningful patterns, de Bono developed the CoRT Thinking Program.

The program is carried out within a group setting. A teacher's manual provides background information, and delineates suggestions on ways to teach thinking.

Students are trained to carry out PMI [to observe plus (P), minus (M), and interesting points (I) in each presented situation]. In addition, the CoRT program focuses on considering other people's viewpoints (OPV). The CoRT program claims to enable individuals to become aware of, and apply thinking strategies in different situations.

The de Bono thinking program is geared towards students with average or above ability. De Bono claims that the majority of teachers can implement the program without special training, but since the program requires a change of focus from a product-oriented to a process-oriented approach, training sessions would be beneficial.

Deshler's Learning Strategy Model

The Learning Strategy Model, Deshler et al. (1980), is an intervention model which has focused primarily on learning disabled adolescents. It attempts to teach students academic and cognitive intervention strategies in order to promote independence of action both inside and outside the classroom, and to facilitate the transfer and generalization of strategies across tasks and settings. Thus, the emphasis is on the facilitation of strategy acquisition, manipulation, integration, organization, storage, and retrieval of information. This model emphasizes teaching of strategic

behaviors (i.e., clustering, visual imagery, questioning, test taking), that is, how to learn.

Three fundamental and interrelated criteria are used to assess acceptability of strategies for training.

1. Strategies must have a high probability of helping the student to cope with the demands imposed by the school environment.
2. Strategies must be based on a theoretical framework stemming from cognitive psychology and principles of learning theory.
3. Strategies must directly address areas of weakness found in a large proportion of the learning disabled adolescent population.

A number of procedural steps are outlined by the Deshler Model. The more common instructional steps are as follows:

1. Test to determine student's current functioning re cognitive monitoring.
2. Describe proposed strategy to the student.
3. Model the strategy.
4. Have the student verbally rehearse the strategy.
5. Have the student practise with teacher-generated materials that are at the student's level of ability.
6. Provide feedback.
7. Give a test on the teacher-generated materials.
8. Teacher and student analyze common errors resulting from Step 7.
9. Have the student practise on student-generated materials.
10. Provide feedback.
11. Give a test on the student-generated materials.

The learning strategy model applies to seven skill areas: reading, writing, mathematics, thinking, social interaction, speaking, and listening. According to Alley and Deshler (1979), this approach is most effective with learning disabled adolescents manifesting average ability and a reading skill at or above the third grade level. However, the above conditions may not all be necessary nor are they all-encompassing.

A training inservice is highly recommended to implement this approach effectively.

Meichenbaum's Self-Instruction Training Program: A Cognitive-Behavioral Paradigm

The Cognitive-Behavioral Training Program focuses on teaching children to generate spontaneously, and employ cognitive strategies and self-instruction. By self-instruction, Meichenbaum (1977) means that the individual verbalizes the statements or procedures, and develops mental images which facilitate controlling, prompting, directing, and maintaining behaviors under a variety of circumstances. The teacher models the self-statements, and the students rehearse these statements (initially aloud and then covertly). An example of such procedural steps follows (Meichenbaum, 1980, page 5).

1. An adult model performs a task while talking out loud (cognitive modeling).
2. The students perform the same task under the direction of the model's instructions (overt, external guidance).
3. The task is performed while the students instruct themselves aloud (overt self-guidance).
4. The students whisper the instructions to themselves as they go through the task (faded, overt, self-guidance).
5. The students perform the task while guiding their performance via inaudible or private speech or non-verbal self-direction (covert self-instruction).

The focal point of the training is not to teach the individual to think but **how to think**. This is accomplished by encouraging the individual to be a collaborator in the generation of cognitive strategies. In addition, the individual is encouraged to display several relevant skills. For example: (1) problem identification (What must I do?); (2) focusing attention and developing an initial plan of attack by considering and evaluating several possible solutions prior to acting on any one, or simply by using a pedestrian type strategy (I must draw a line from point A to point B — carefully — I can draw it free-hand or I can use a yardstick to be more precise); (3) self-reinforcement (Good — it's a pretty good line that I drew); (4) sensitivity to feedback and self-evaluation (I have made an error. It's O.K. I must hold the yardstick more firmly against the

blackboard. I'll erase this line and draw a new one). Although these examples are neither exhaustive, nor are the skills mutually exclusive, it does reasonably represent the ultimate goal of training the individual to internalize a complete set of self-instructional strategies so that they may become part of his or her repertoire. In addition, and more importantly, the individual must learn when and where to use such strategies and become aware of cognitive processes, to de-automatize the learning process and prudently employ learning strategies (meta-cognition).

Meichenbaum has described a number of clinical suggestions for using cognitive-behavioral self-instructional training with children. These include (1) using the child's personal medium of play to initiate and model self-talk; (2) using tasks that have a high "pull" for the use of sequential cognitive strategies; (3) peer teaching by having children cognitively model while performing for another child; (4) progressing through the program at the child's own rate, and building up the package of self-statements to include self-talk of a problem-solving variety as well as coping and self-reinforcing elements.

In summary, this program attempts to teach the student how to learn by involving the student as a collaborator in the generation of cognitive strategies. The teacher first models the behavior, and the behavior is rehearsed by the student, initially aloud, and then covertly. The overall goal of the program is not simply to impart strategies but to assist the individual in becoming aware of the cognitive processes, de-automatizing the learning process, learning when and where to use strategies, and using these strategies in an effective and constructive manner in both academic and social situations.

Chapter IV

Part 2

Reading

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Chapter Four: Part 2

Reading

Objectives

The purpose of this section is to:

- 1.state the general purposes of a reading program for learning disabled students,
- 2.develop an awareness that learning disabled students experience multiple difficulties in the process of learning to read,
- 3.present a variety of methods of assessing reading difficulties,
- 4.note that successful intervention involves cooperation among the student, teacher, and parent,
- 5.note teaching approaches that can be used to supplement the regular classroom program or to address individual strengths and weaknesses, and
- 6.provide specific programming suggestions.

Introduction

Reading is one of the most valued skills in our society. The successful reader must see, perceive, recognize, comprehend, and integrate the written message. Reading is an essential part of the entire language arts programs and is related to a student's development of listening, writing, speaking, and spelling skills. Reading is crucial to the student's success in all content areas. Success in reading influences how students feel, the courses they will be able to take, how much they will learn in class, and possibly whether they will pursue further training or education after high school.

Since very few people realize what complex cognitive skills are involved in comprehending written information, few learning disabled students become fluent readers. Reading programs present many problems for learning disabled students, and mastery of the necessary skills can be achieved only through reading programs that have very specific goals.

Definitions

The following terms are used in this section on reading. For the purpose of this manual, these terms are defined as follows:

Word Recognition Terms

In order to read, a child must associate sound and meaning with the printed word, and identify the word using several word recognition techniques. An adequate word recognition program uses all of the following techniques.

Configuration

The student observes the shape of the word and forms word images (sight vocabulary). Configuration cues depend on the length, height, and distinctive characteristics of words. (e.g., butter)

Sight Words

The student recognizes words instantly and independently, but may not be familiar with their pronunciation and meaning.

Context Clues	The student is aware of the sentence, paragraph, or story context and deduces the appropriate meaning of the word. The student fuses the new word into the flow of related ideas in a sentence.
Structural Analysis	The student identifies parts of words, root words, suffixes, inflectional endings, plurals, compound words, and contractions.
Phonetic Analysis	The student analyzes words in terms of their sound elements, using visual clues in printed words to determine consonant and vowel sounds, syllabic divisions, and accented syllables.
Synthesis	The student blends the sounds of letters together. This blending process helps in both reading and spelling.

Students should be encouraged to use methods that are appropriate to their needs and preferred learning styles.

Comprehension Terms

For students to become more informed and effective readers, teachers need to give a proportionate amount of attention to each level of reading comprehension. The level of reading comprehension varies according to the age, grade level, and abilities of the students being taught. Each of the following four levels of reading comprehension is dependent on mastery of the level(s) preceding it.

- 1. Literal Comprehension** - involves acquiring information that is directly stated in the selection. It requires a thorough understanding of vocabulary, sentence meaning, and paragraph meaning. Students should be able to answer questions involving:
 - a. main idea
 - b. details
 - c. cause and effect
 - d. sequence

- 2. Inferential Comprehension** - involves reading between the lines or making inferences, that is, looking at the ideas that are implied rather than directly stated. The student must be able to:
 - a. infer main ideas in the passage
 - b. infer cause and effect relationships that are not directly stated
 - c. detect mood
 - d. detect the author's purpose in writing
 - e. draw conclusions

- 3. Critical Reading** - involves the ability to evaluate written material, by comparing the ideas discovered in written material with known standards, and drawing conclusions. The critical reader must be an active reader, interacting with the material by questioning, searching for facts, and suspending judgement until all the material has been presented. The critical reader considers:
 - a. the person who wrote the material
 - b. the accuracy and appropriateness of the material

- 4. Creative Reading** - involves going beyond the material presented and requires students to think and imagine as they read. Creative readers should be able to:
 - a. understand cause and effect relationships
 - b. build a mental image of the events in the story as told in the author's words
 - c. make value judgements about actions of the characters
 - d. use printed material to solve problems and predict outcomes
 - e. find ways of improving the story's method of presentation
 - f. elaborate on or modify what is read
 - g. use a story to stimulate new lines of thought or written products

Reading Levels

- 1. Independent Level** - the highest reading level at which the student can read fluently, with personal satisfaction and without help. The student experiences no difficulties with word recognition or understanding the concepts in the context. Oral reading is between 98% - 100% correct and comprehension is equal to or greater than 90% correct.

2. Instructional Level - this is the teaching level. Materials are difficult enough to be challenging but sufficiently easy that the student can do independent seatwork. The instructional level is reached when the student uses a conversational tone in oral reading and applies proper word recognition clues and techniques. Oral reading is between 87% and 97% correct while comprehension is equal to or greater than 75% correct. At this level, the teacher must introduce new concepts or experiences.

3. Frustration Level - this is the highest level at which the student can read independently. Obvious difficulties cause confusion, frustration, and tension in the reading situation. Such behaviors as head movements, slow word-by-word reading, lack of comprehension, word analysis errors, and tension are evident. Oral reading is below 86% correct while comprehension is less than 50% correct.

4. Capacity Level - this is the highest level at which the student can understand the ideas and concepts in information material that is read aloud. A 75% comprehension level is considered adequate by some authors.

7. Cannot use the dictionary to look up word pronunciation, spelling, and meaning.
8. Has a limited vocabulary to build on and/or lack of reading experiences.
9. Does not see the relationship between spoken language and written material.
10. Cannot recall what is read or what is read aloud.
11. Cannot sequence story events in reading passages.
12. Cannot apply learning strategies.
13. Cannot search for information (facts and details).
14. Cannot draw conclusions or predict outcomes.
15. Does not comprehend main ideas in stories.
16. Cannot generalize reading skills to other subject areas.
17. Does not pace reading speed to the purpose of the material being read.
18. Reads orally word by word, disregarding punctuation.
19. Spends so much time analyzing words that comprehension of the passage suffers.
20. Unaware of the difference between letters and words.
21. Inattention results in instructional steps being missed.
22. Cannot complete the written activities associated with reading.
23. Lacks motivation, or has a poor attitude towards reading.
24. Physical problems such as visual acuity deficit, hearing loss, and lack of speech clarity can also interfere with a child's progress in reading. Insufficient sleep, dietary deficiencies, poor health, and drugs can lessen the vitality needed to attend to the reading task.

Some general reasons underlying reading difficulties are:

1. **The mode of instruction** is not geared to meet the unique learning style or strengths and weaknesses of the learning disabled student.
2. **Lack of success** in reading leads to a lowering of self-concept and limits the student's motivation to learn to read.

Reading Difficulties of the Learning Disabled

Teachers should be aware that learning disabled students vary greatly in reading aptitude, performance, and growth. The following are some of the specific difficulties that learning disabled students often have in the actual reading process.

1. Has difficulty in associating letter sounds with appropriate letters.
2. Has difficulty with phonetic analysis rules.
3. Has difficulty in applying structural analysis techniques.
4. Has difficulty in recognizing sight words automatically in isolation or in context.
5. Has difficulty in retaining vocabulary.
6. Cannot associate a word with the meaning of the word.

3. **Inappropriate emphasis** is placed on word recognition skills without stressing comprehension skills as well.
4. **The cognitive strategies** necessary to read and comprehend written passages are not mastered.
5. It is **assumed** that because a student can read words, the student can also understand what is read. The two do not necessarily go together.
6. Students are **inappropriately placed** in reading groups that reflect their intellectual potential rather than their actual reading level.
7. **Pressure** to achieve a higher standard, especially in reading, is being placed on the student. An overall IQ score does not reflect specific reading disabilities.
8. **Specific learning disabilities** such as poor retention or short attention span are involved.
9. **Materials** (especially at the secondary level) that are used do not match the student's capabilities or interests.

Although numerous other reasons for reading difficulties have been suggested, the above list provides sufficient background for the purposes of this chapter.

Purposes of a Reading Program for Learning Disabled Students

1. To help learning disabled students reach to their full potential in the area of reading.
2. To identify the learning disabled students' capabilities and learning problems in order to determine the type of reading instruction required.
3. To diversify teaching styles and methodologies to match students' learning characteristics.
4. To adapt the curriculum to what the learning disabled students bring to the learning situation, what they still need to learn, and how they learn best.
5. To ensure that the instructional content, appearance, and format of the instructional materials are geared to the age level of learning disabled students.
6. To provide cognitive strategy training to attempt to improve reading ability.
7. To adhere as much as possible to the regular school program, even when alternative reading instruction is being provided.
8. To use instructional approaches which build on the learning disabled students' learning style.
9. To attempt to provide an integrative approach to reading that teaches and develops necessary skills and cognitive strategies.
10. To make the reading process positive and successful and thus improve the self-concept of learning disabled students.

Assessment

Purpose of Reading Assessment

Assessment procedures are carried out to obtain further information about learning disabled students' reading abilities. To obtain this information, assessment procedures can be used to:

1. identify students who need special reading instruction,
2. find each student's instructional reading level,
3. identify specific reading problems,
4. note strengths and weaknesses in the area of reading,
5. determine the student's overall ability,
6. find the student's preferred learning style and whether he or she uses cognitive strategies in reading,
7. implement appropriate programming to improve reading skills,
8. establish goals and objectives for instruction.

Published Formal and Informal Reading Tests

One way of identifying poor readers within the classroom is to administer a standardized reading achievement test, which provides a general picture of the student's overall level of reading performance. These tests may rank the student's reading at a higher level than would informal reading inventories. However, they are useful as screening devices and often identify students who need in-depth assessment to explore the exact nature of their difficulties.

Standardized Academic Screening Devices

Tests	Characteristics
Canadian Achievement Tests (McGraw-Hill, 1978)	Grades ECS to 12 Group-administered. Two content areas are: (1) pre-reading which includes listening for information, letter forms, names and sounds, visual discrimination, and sound matching, and (2) reading, which includes phonic analysis, structural analysis, reading vocabulary, and reading comprehension.
Stanford Diagnostic Reading Test (Karlson, Madden, and Gardner, 1977)	Grades 1.6 to 12 May be administered to individuals or groups. Measures auditory vocabulary, auditory discrimination, phonetic and structural analysis, word reading, reading comprehension, and rate of reading.
Canadian Test of Basic Skills (Hieronymus, Lindquist, Hoover and King, 1981)	Grades 1 to 12 Group-administered. Two of the subtests measure vocabulary and reading comprehension.
Peabody Individual Achievement Test (Dunn and Markwardt, 1970)	Grades 1 to 12 Individually administered. Measures word recognition and reading comprehension.
Brigance Diagnostic Inventory of Basic Skills (Brigance, 1977)	Grades ECS to 6 Individually administered. Measures word skills recognition, oral and literal comprehension, word analysis, vocabulary, and dictionary use.
Brigance Diagnostic Inventory of Essential Skills (Brigance, 1980)	Secondary Level Individually administered. Measures oral reading, reading comprehension, functional word recognition, word analysis, and reference skills.
Gates-MacGinitie Reading Tests (MacGinitie, 1978)	Grades ECS to 12 May be administered to individuals or groups. Measures vocabulary and comprehension.

Tests	Characteristics
Gates-McKillip Reading Diagnostic Test (Gates and McKillip, 1962)	<p>Grades 2 to 6</p> <p>Individually administered. Measures oral reading, word recognition (timed and untimed), spelling skills, and visual and auditory reading skills.</p>
Durrell Analysis of Reading Difficulty (Durrell, 1980)	<p>Grades ECS to 6</p> <p>Individually administered. Measures oral reading, silent reading, listening comprehension, and word recognition and analysis. Supplementary subtests assess reading-related behaviors such as visual memory for words, learning rate, spelling, hearing sounds in words, and identifying letters named.</p>
Diagnostic Reading Scales (Spache, 1972)	<p>Grades 1 to 6</p> <p>Individually administered. Measures words in isolation, and oral and silent reading.</p>
Woodcock Reading Mastery Tests (Woodcock, 1973)	<p>Grades ECS to 12</p> <p>Individually administered. Measures letter identification, word identification, word attack skills, word comprehension, and passage comprehension.</p>
Metropolitan Achievement Tests: Reading (Prescott, Balow, Hogan and Farr, 1980)	<p>Grades ECS to 6.9</p> <p>Group administration. Measures word knowledge, word analysis, and comprehension ability.</p>
Analytical Reading Inventory (Wood and Moe, 1977)	<p>Grades 2 to 9</p> <p>Individually administered. Measures word recognition and passage comprehension.</p>
Contemporary Classroom Reading Inventory (Rinsky and DeFossard, 1980)	<p>Grades 4 to 9</p> <p>Individually administered. Measures student's instructional level in different content areas, and provides passage in fiction, social studies, and science.</p>
The Standard Reading Inventory (McCracken, 1966)	<p>Grades Preprimer to 7</p> <p>Individually administered. Measures word recognition, and oral and silent reading.</p>
Classroom Reading Inventory (Silvaroli, 1976)	<p>Grades Preprimer to 8</p> <p>Individually administered. Measures reading capacity, reading level, word recognition, and oral reading.</p>
Reading Placement Inventory (Sucher and Allred, 1973)	<p>Grades 1 to 9</p> <p>Individually administered. Measures word recognition, oral reading accuracy, and comprehension.</p>

Word Recognition and Word Analysis Tests

Word recognition and word analysis can be used to:

1. indicate the student's sight vocabulary,
2. provide clues to what word attack skills are used to identify unfamiliar words, and
3. indicate where to initiate reading instructions.

These tests measure only sight vocabulary and word attack skills, and not meaning or comprehension.

Tests	Characteristics
Silent Reading Diagnostic Test (Balow and Hoyt, 1970)	Grades 2 to 6 Group administered. Measures silent reading abilities, word recognition, and word analysis.
Botel Reading Inventory (Follett, 1970)	Grades 1 to 12 Individually administered. Measures word opposites, word recognition, phonic skills, and spelling.
Doren Diagnostic Test of Word Recognition (Doren, 1973)	Grades 1 to 9 Individually administered. Measures letter and word recognition, and phonetic analysis skills.
Dolch Basic Sight Words	Ages 6 to 8 Individually administered. Measures sight vocabulary and word attack skills.
McCullough Word Analysis Tests (McCullough, 1963)	Grades 4 to 6 Individually administered. Measures structural analysis skills, phonetic analysis skills, and discrimination and matching skills.
Doren Diagnostic Reading Tests of Word Recognition (American Guidance Service, 1973)	Grades 1 to 9 Individual or group administered. Measures letter and word recognition, structural and phonetic analysis skills, sight words, and spelling.
Roswell-Chall Diagnostic Reading Test of Word Analysis (Revised) (Roswell, 1978)	Grades 1 to 4 Individually administered. Measures word analysis skills such as vowel and consonant sounds, syllabication, compound words, and word recognition skills.
Phonics Inventory Tests (Houghton, Mifflin, 1972)	Grades 1 to 9 Group administered. Measures word analysis skills (reveals only which items need reteaching).

Other Reading-Related Tests

Auditory Discrimination Test (Revised) (Wepman, 1973)	Ages 5 to 10 Individually administered. Measures the ability to distinguish whether pairs of words sound alike or different.
Spache Binocular Reading Tests	Ages 5 to 10 Individually administered. Provides an analysis of how each eye operates in the reading act.
Keystone Visual Survey Telebinocular	Ages 5 to adult Individually administered. Measures far and near point visual skills.
California Study Method Study	Ages 12 to 18 Group administered. Measures study habits.

Informal Assessment

Apart from commercially prepared reading inventories, teachers can develop their own informal tests to evaluate the skills students do and do not possess in any of the following areas:

- 1. word recognition
- 2. oral and/or silent contextual reading
- 3. oral and/or silent reading comprehension
- 4. listening comprehension

Informal test methods are used by teachers to establish quickly the reading level of a learning disabled student or to identify specific reading problems. These tests are used to measure the independent, instructional, and frustration reading levels as well as the listening-capacity level of students. However, informal teacher-made tests are dependent on the accurate grading of the material used and the teacher's knowledge of the reading process, test construction, and test interpretation. Standard error scoring techniques are used for assessing the student's reading level for both traditionally standardized or informal reading tests. Examples of errors or miscues commonly made by students are presented later in this section. Fry's readability formula can be used to discover the difficulty levels of materials being used for instructional or test purposes (see graph on next page).

Books may have uneven levels of readability, thus rendering grade level scores invalid.

Example:

	Syllable	Sentence
First hundred words	124	6.6
Second hundred words	141	5.5
Third hundred words	158	6.8
Average	141	6.3

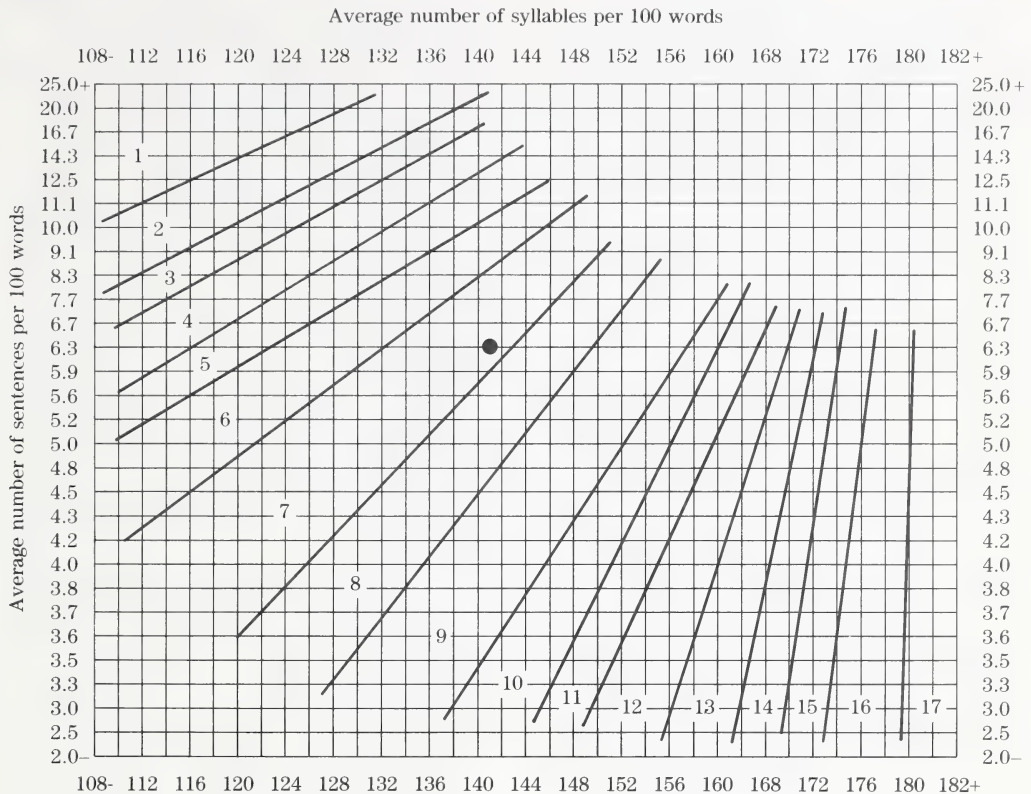
Readability 7th grade
(see dot plotted on graph).

Word Recognition Informal Tests

Although a number of commercially prepared word recognition tests are available, teachers may also develop their own lists of words from the reading materials being used in the instructional setting. Usually 20 to 25 words are chosen from the glossaries found in most basal readers. These words can later be refined to measure equally a number of phonic skills. Words can be presented individually on index cards or in a list to the student. (Do not present the student with a page containing several lists, especially if the student's sight vocabulary is limited. This is demoralizing and frustrating for the student.) No cues are given, but the student has the opportunity to apply whatever analysis skills he or she has learned to help deduce the word. Thus the teacher also gets some idea of the student's word-attack skills. A student should achieve a score of approximately 95% at a given reading level before continuing to the next level. By carefully recording the student's response, the teacher can note strengths and/or weaknesses in word-attack skills by analyzing error patterns that emerge. Examples of common errors are:

Error	Example Word Response
Omission of letter(s) in a word	where... were
Insertion of letter(s) in a word	fight... flight
Substitution of consonants in a word (initial, medial, final)	nine... mine stream... scream bat... bad
Substitution of medial vowels	hit... hat
Reversal of letters in a word	mat... tam
Addition of endings	make... makes
Omission of endings	computes... compute
Syllable omission	visiting... visting

Figure 4
Fry Readability Graph



Expanded Directions for Working Readability Graph

1. Randomly select three (3) sample passages and count out exactly 100 words each, beginning with the beginning of a sentence. Do count proper nouns, initializations, and numerals.
2. Count the number of sentences in the hundred words estimating length of the fraction of the last sentence to the nearest one-tenth.
3. Count the total number of syllables in the 100-word passage. If you don't have a hand counter available an easy way is to simply put a mark above every syllable over one in each word then when you get to the end of the passage count the number of marks and add 100. Small calculators can also be used as counters by pushing number 1 then push the + sign for each word or syllable when counting.

4. Enter graph with average sentence length and average number of syllables; plot dot where the two lines intersect. Area where dot is plotted will give you the approximate grade level.
5. If a great deal of variability is found in syllable count or sentence count, putting more samples into the average is desirable.
6. A word is defined as a group of symbols with a space on either side; thus, Joe, IRA, 1945, and & are each one word.
7. A syllable is defined as a phonetic syllable. Generally, there are as many syllables as vowel sounds. For example, stopped is one syllable and wanted is two syllables. When counting syllables for numerals and initializations, count one syllable for each symbol. For example, 1945, is four syllables, IRA is three syllables, and & is one syllable.

Note: This "extended graph" does not outmode or render the earlier (1968) version inoperative or inaccurate; it is an extension. (Reproduction permitted - no copyright.)

(From *Elementary Reading Instruction* by Edward B. Fry, (1977), page 217.)

Oral and Silent Reading Informal Tests

Word recognition tests measure sight vocabulary and sometimes word-attack skills, but not listening, contextual reading, or comprehension skills. Hammill, Bartel, and Bunch (1984) have provided the following directions for developing an informal test of context and comprehension skills:

1. To Choose a Standard Basal Series

- a. Choose any series that goes from preprimer to the sixth level.
- b. Choose materials that the child has not previously used.

2. To Choose a Selection

- a. Choose a selection that makes a complete story.
- b. Choose selections of about 50 words at the preprimer level, 100 words at the primer, first, and second levels, and 100-200 words at the upper levels.
- c. Choose two selections at each level; plan to use one for oral reading and one for silent reading, and take the selections from the middle of the book.

3. Construction of Questions

- a. Build five questions for each selection at the preprimer level; six questions for each selection at primer, first, and second levels; and ten questions for each selection at level three and above.
- b. Avoid "yes" and "no" questions.
- c. Use vocabulary in the questions that is at the same level as the vocabulary in the selection.
- d. Construct three kinds of questions at each level in about the following percentages: factual - 40 percent; inferential - 40 per cent; and vocabulary - 20 per cent.

4. Construction and Preparation of Test

- a. Cut and mount the selections on oaktag or some other material.
- b. Note the pages in the book, put the questions on separate cards, and have the child read the selection from the text itself. (Hammill, Bartel, and Bunch, 1984, page 80.)

The teacher can begin this test of comprehension one or two levels below the child's instructional level, which has been determined previously through a word recognition test.

Comprehension questions given after a passage has been read orally or silently can be analyzed in terms of the number correct and the type of errors. Comprehension errors assess problems in answering questions dealing with: main ideas, details, sequencing, cause/effect, inference, and vocabulary.

Oral reading errors and miscues might demonstrate the strategies the student is using. Miscue analysis becomes especially important when the miscues are of such a nature and frequency that the student's comprehension is impaired. Some common oral reading miscues are shown in the chart on the next page.

Through this type of miscue analysis, the teacher can determine the child's use of context and graphic phonic cues. Goodman and Burke's (1972) formal reading miscue inventory is also useful for structured diagnosis of particular reading miscues. Collins and Smith (1982) have listed the most common types of comprehension errors which are:

1. The student fails to understand a word because it is novel, or it does not make sense in the context.
2. The student fails to understand a sentence because he or she:
 - a. can find no interpretation
 - b. can find only a vague, abstract interpretation
 - c. can find several possible interpretations
 - d. finds an interpretation that conflicts with prior knowledge.
3. The student fails to understand how one sentence relates to another because he or she:
 - a. interprets one sentence in such a way that it conflicts with another
 - b. can find no connection between the sentences
 - c. can find several possible connections between the sentences.
4. The student fails to understand how the whole text fits together because he or she:
 - a. can find no point to the whole text or part of the text
 - b. cannot understand why certain episodes or sections occur
 - c. cannot understand the motivations of certain characters.

Oral Reading Error Patterns

Error	Example
Omission - omits a word	the big <i>red</i> ball/the big ball
Insertions - adds a word(s)	the big ball/the big <i>red</i> ball
Substitution - uses a word other than indicated	the dog ran/the dog red
Sequence - uses unexpected order	John and Kim/Kim and John
Mispronunciation	looks/looked
Inversion	on/no
Nonsense words	crat/cat
Sounding out - gives tentative responses (voiced or unvoiced)	Pat will p--/Pat will play
Self-correction - spontaneously corrects self	that is/what is...that is
Dialectic pronunciation	clumb/climbed
Lack of fluence - has no expression	reads word for word
Hesitations	pauses before pronouncing words
Punctuation ignored	Don't Stop!/Don't stop
Reversals	was he/he was
Repetitions	He came/He...he came
Aided words - asks for assistance	He... <i>climbed</i>

Cloze Procedure

The cloze procedure is used to provide an estimate of how well the student is using language and comprehension strategies, or to place the student in at a reading level. Students are required to supply words deleted from an unfamiliar reading passage of approximately 250 words. The first and last sentence of the passage are usually left intact, and, beginning with the second sentence, every fifth or ninth word is omitted and replaced with a blank. The student is instructed to fill in the blanks as the student reads. Exact words or synonyms are counted as correct, and percentage correct scores are determined. Ekwall (1981) has provided the following guidelines for interpreting scores on cloze passages:

Level I - Independent Reading	57%
Level II - Instructional Reading	44-56%
Level III - Frustration Reading	43%

When developing a cloze passage, teachers should verify that the deleted words have context clues within the sentences and that the student understands the directions. The cloze test is especially useful with learning disabled students at the secondary level because it helps to determine their facility with context, semantic, and syntactic cues and their ability to apply reasoning strategies. It is important to realize that some students become frustrated with this task and fill in any word or stop trying. A sample cloze procedure can be found in Appendix D.

Observation

Teachers should use daily observations of the learning disabled students' reading progress as well as results obtained from formal and/or informal assessment instruments. (The assessment chapter provides more information on observational assessment.) The teacher observes and records individual strengths and weaknesses for the purpose of adjusting instruction to meet individual needs. The teacher can

develop a checklist of behaviors to be observed. When the student reads orally, or completes comprehension activities, the teacher has an opportunity to observe:

1. method of word-attack
2. word recognition problems
3. rate of reading
4. fluency in oral reading and in orally responding to questions
5. grasp of the main ideas
6. use of comprehension strategies
7. ability to sequence information
8. ability to follow printed directions
9. ability to generalize and apply learned reading skills to other academic areas such as mathematics or social studies
10. use of reference materials (dictionary, library books)
11. ability to read in different ways for different purposes
12. ability to read critically
13. ability to go beyond the information given
14. appreciation of reading
15. attitude towards reading (eager or reluctant)
16. peer reactions
17. perceptions of self in relation to reading ability
18. lip movements and dialect usage
19. eye movements
20. ability to follow the printed word without pointing
21. physical comfort or discomfort (restlessness, adjusting the book constantly, general behavior)

Oral Interview

An oral interview can be conducted with the student before assessment is initiated, as part of the assessment, or as in an intervention technique when difficulties arise. The oral interview provides additional information regarding the student's reading skills and attempts to identify the cognitive strategies, if any, the student applies in reading. Interviews also confirm or refute the hypothesis the teacher has arrived at during assessment or daily observation. (The section on mathematics outlines an oral interview procedure that can also be applied to reading.) In addition, the teacher can gain

information on the students' perceptions of themselves as readers. Questions to examine what a student thinks about reading include:

1. Do you think you read better, worse, or about the same as other students in your class?
2. What do you do best when reading?
3. What causes you the most difficulty when reading?
4. Do you read books for fun?
5. How do you find the answers to questions about a reading story?

Assessment Summary

The method(s) used to assess the student's strengths and weaknesses in reading skills will depend on the individual teacher and student, available personnel, time, and materials on hand. In all cases, the teacher should summarize the data, preferably on a teacher-made summary sheet that focuses on areas that are important to that teacher. The summary sheet can be structured on the basis of assessment results from tests used by the teacher, observation, and interview information. By graphing the initial performance scores, the teacher has a ready, visual account of the student's present levels of performance. Retesting scores can be simply indicated by using a different color. Summary checklists are also found in most basal readers or in books about reading.

The teacher may also decide to refer the student to a reading specialist and/or qualified school psychologist to obtain more comprehensive information. As well, a medical referral often provides additional information on physical concerns such as fatigue, hearing loss, and visual acuity.

Detailed assessments are carried out only with the parents' consent and cooperation. The involvement of the parent(s), teacher, and other professionals in assessment increases the likelihood of obtaining all the necessary information needed to plan and implement appropriate programs.

Example of a Reading Checklist

Name: _____ Age: _____ Date: _____

School: _____ Teacher: _____

Oral Reading

- ☐ Evidence of emotional tension
- ☐ Strained, high-pitched voice
- ☐ Monotonous tone
- ☐ Volume too loud or soft
- ☐ Poor enunciation
- ☐ Word-by-word reading
- ☐ Incorrect phrasing
- ☐ Eye-voice span too short
- ☐ Oral accuracy errors
 - ☐ hesitations
 - ☐ refusals
 - ☐ omissions
 - ☐ repetitions
 - ☐ mispronunciations
 - ☐ punctuation ignored
 - ☐ substitutions
 - ☐ additions
- ☐ Inadequate oral comprehension
- ☐ Low oral reading rate

Silent Reading

- ☐ Knowledge of letter names
- ☐ Use of context clues
- ☐ Phonic analysis
 - ☐ single consonants
 - ☐ consonant blends
 - ☐ silent consonants
 - ☐ short vowels
 - ☐ vowel blends
 - ☐ phonic rules
 - ☐ sounds blending ability
- ☐ Structural analysis
 - ☐ inflectional endings
 - ☐ compounds
 - ☐ common prefixes
 - ☐ common suffixes
 - ☐ roots

Vocabulary Development

- ☐ Inadequate sight vocabulary
- ☐ Inadequate meaning vocabulary

Comprehension Skills

- ☐ Factual detail (recall)
- ☐ Main idea of paragraph
- ☐ Sequence of ideas and events
- ☐ Following directions
- ☐ Making inferences
- ☐ Critical, evaluative reading

Reading Rate

- ☐ Lack of flexibility in rate
- ☐ Low silent reading rate
- ☐ Scanning
- ☐ Skimming
- ☐ Finger pointing
- ☐ Head movements

Study Skills

- ☐ Asks questions about reading
- ☐ Takes notes
- ☐ Reads maps and globes
- ☐ Reads charts, tables, and graphs
- ☐ Uses the dictionary
- ☐ Uses the encyclopedia
- ☐ Uses other reference books
- ☐ Rereads difficult material
- ☐ Outlines difficult material

Checklist of Reading Difficulties (Adapted from a checklist in *Fundamentals of Educational Assessment* by C.F. Ingram, 1980). Reprinted with the permission of Wadsworth Publishing (originally published by D. Van Nostrand, now incorporated under Wadsworth Publishing).

Intervention

Precise assessments should lead to appropriately designed instructional programs to meet the needs of individual learning disabled students with reading problems. The vast number of reading approaches, programs, and activities available allow for a match of teaching style and methodology with the student's learning characteristics. Thus the teacher can implement a specific program, note if the student is making progress, and continue with this approach or try an alternative approach, depending on its success.

Some learning disabled students may require a full-time or part-time placement in a special instructional setting. Others may need only adjustments in teaching approaches or methods within the regular classroom. However, to assure continued development in reading skills, systematic instruction must be continued, regardless of the learning disabled student's grade level. Some students are only beginning to achieve reading strength by the end of the elementary level, while others have learned basic skills and need practice with more challenging material and a wider variety of reading experiences.

The most successful approach to teaching reading skills is to relate the skills to the development of meaning, rather than learning the skills as a discrete entity (Smith, 1981).

Programming Approaches

Introduction

There is no one way to teach reading. Most reading approaches, however, attempt to develop a basic sight vocabulary, to teach word-attack skills, and to teach that reading always involves thinking about and understanding what is taking place. Different reading approaches can be used within the regular reading curriculum. For example, a teacher may supplement a basal reader approach with a language experience approach and/or cognitive strategy training.

Cognitive Approach

Learning disabled adolescents often fall very far behind their peers as curriculum demands increase in the junior and senior high school and a broader range of skills is required. One way to cope with these problems is to teach students specific cognitive or learning strategies for coping with curriculum requirements. Learning strategies have been defined as:

...techniques, principles or rules that will facilitate the acquisition, manipulation, integration, storage and retrieval of information across situations and settings.

(Alley and Deshler, 1979, page 13).

A learning strategies approach to reading is designed to teach students "how to learn" rather than specific content. For this approach to be effective, these factors must be considered (Schumaker et al., 1981):

1. An instructional methodology must be specified when teaching any number of strategies to learning disabled students which is effective.
2. The strategies must be effective in enabling learning disabled students to tackle the demands of the regular, mainstream curriculum.
3. Each strategy must be carefully specified.

Two cognitive strategy approaches outlined by Clark, Warner, Alley, and Deshler (1981) are: (1) the Visual Imagery Strategy procedure, and (2) the Self-Questioning Strategy procedure. These approaches are briefly described below. In applying these strategies, teachers should make every attempt to use the regular curriculum as much as possible.

1. Visual Imagery Strategy Procedure

The Visual Imagery Strategy facilitates reading comprehension by requiring the student to read a passage and create visual images representative of the content of the passage. The student follows these procedures:

- a. **Read** Read the first sentence.
- b. **Image** Try to make an image — a picture in your mind.
- c. **Describe** Describe your image.
 - i. If you cannot make an image, explain why you cannot and go on to the next sentence.
 - ii. If you can make an image, decide if it is the same as an old image (the most recent image held in memory), the old image changed somewhat, or an entirely new image (not at all similar to the most recent memory image). A changed image may be made by adding or subtracting things from the picture you had in your mind before. Pictures may change as you continue reading a story.
 - iii. If you have an image, describe it.
- d. **Evaluate** Evaluate your image for its completeness.
 - i. As you describe your image, check to make certain it includes everything necessary. An image should contain as much of the sentence content as possible.
 - ii. If part of the sentence content is left out of your image, it might be forgotten. If content is missing, adjust your image and continue. If your image is comprehensive, continue. (Walmsley, 1984, page 42.)
- e. **Repeat** Read the next sentence and repeat Steps 1-4.

The students first implement these procedures in materials at their level of ability and then with materials at their grade level.

2. Self-Questioning Strategy Procedures

The Self-Questioning Strategy also facilitates reading comprehension by teaching the student to form questions while reading, to maintain interest, and enhance recall. Students follow these procedures:

- a. Read the title (or subtitle). Ask yourself as many “WH” questions as you can that relate to this title (or subtitle).
- b. Mark the answer to each question when you find it in text with the appropriate symbol.
- c. Ask new questions as you read to help yourself keep reading.
- d. Mark the answers.

Before students begin applying the Self-Questioning Strategy, they are provided examples of five common types of “WH” questions: who, what, where, when, and why. Symbols are identified for each type of question so students can mark the answer to a specific question when it is located in the text. For example, a clock face could be used for “when” questions.

During the modeling instructional step, the teacher identifies cues in the text that will help the student formulate appropriate questions at appropriate times. For example, the teacher indicates that when a date is included, it is a good time to ask a “what happened on this date” question. (Clark et al., 1981, page 13.)

Instructional Procedures for Visual Imagery and Self-Questioning

These instructional steps used to teach visual imagery and self-questioning are adapted from those outlined by Alley and Deshler (1979) and Deshler, Alley, Warner, and Schumaker (in press). They are as follows:

Step 1: Test

In this step, the teacher tests either the student’s visual imagery or self-questioning skills in both sets of materials (reading ability level and grade level). After testing is completed, the teacher discusses the results with the student, affirming that the student exhibits a deficit in the way he or she interacts with the materials and, as a result, in the way he or she is able to recall the information.

Step 2: Describe the Learning Strategy

Next, the teacher describes to the student the steps involved in the visual imagery or self-questioning strategy. These steps include the specific behaviors in which the student should engage and the sequence of behaviors that should be followed. As each step is explained, a rationale is given for that behavior and how it will help the student to engage in the strategy.

Step 3: Model the Strategy

In this step, the teacher models the visual imagery or self-questioning strategy for the student. Thus, the teacher demonstrates the strategy by acting out each of the steps previously described to the student while “thinking aloud” so the student can witness all of the processes involved in the strategy.

Step 4: Verbal Rehearsal of the Strategy

Here the student verbally rehearses the steps involved in the visual imagery or self-questioning strategy to a criterion of 100% correct without prompts. This instructional step is designed to familiarize students with the steps of the strategy so that they can instruct themselves in the future as to what to do next when performing a strategy.

Step 5: Practice in Controlled Materials

In this instructional step, the student practices applying the strategy in materials written at his or her current reading level. This reduces the demands on the student so that he or she can concentrate on the learning of the new strategy. As the student becomes proficient in the strategy, he or she is encouraged to progress from overt self-instruction to covert self-instruction while practising the strategy.

Step 6: Feedback

As the student applies the strategy, the teacher gives the student both positive and corrective feedback. Steps 5 and 6 are repeated with additional materials until the student learns to use the strategy to a specified criterion.

Step 7: Practice in Grade-Level Materials

When the student reaches the criterion in the controlled materials, the teacher instructs him or her to apply the strategy to materials at his or her grade level.

Step 8: Feedback

As the student practices in the grade-level materials, the teacher gives the student both positive and corrective feedback about his or her performance. Steps 7 and 8 are repeated until the strategy is mastered to a specified criterion.

Step 9: Test

The tests administered during Step 1 are given to the student again, using different materials. This gives a measure of each student's progress in learning the strategy. If indicated by the test results, review of the strategy is conducted again by repeating Steps 7 and 8.

In using this “strategy training” approach, teachers should observe the following cautions:

1. Metacognitive strategies may be successfully learned but not applied to all reading situations.
2. Much of the research to support a strategy training approach has been carried out in settings unlike the regular classroom environment.
3. Increased reading proficiency may result from motivational changes or variables other than the training.

Directed Reading Approach

Basal readers are the materials most widely used for teaching reading in the regular classroom. These series provide materials to help children develop and practice reading skills in every grade level in the elementary school, and some programs extend into the secondary grades. Many basal reading programs now offer revised editions that emphasize an eclectic approach to reading. These series usually include sequenced readers for the student, teaching manuals with detailed lesson plans, student workbooks, scope and sequence charts, and evaluation checklists and unit tests. Teacher who follow the format outlined in the basal reader series use what is called the Directed Reading Approach. Teachers can use other approaches simultaneously with the basal readers to remediate specific reading problems. The Directed Reading Approach incorporates the following components:

1. Motivation and development of background. The teacher attempts to interest the student in reading about the topic covered in the lesson.
2. Directed story reading (silent and oral). Before reading the story the teacher provides students with purposeful questions to direct their reading. This approach improves comprehension performance.
3. Skill building activities. Teacher provides direct instruction in one or more word recognition or comprehension skills.
4. Follow-up practice. The skills that are taught are practised.
5. Enrichment activities. Activities in art, music, or creative writing, or further readings are suggested.

The major **advantages** of the Directed Reading Approach are:

1. Books are carefully graded in difficulty and have a controlled vocabulary.
2. Detailed teachers' manuals.
3. Comprehensive coverage of all phases of the reading program.
4. Systematic teaching of skills and systematic review.
5. Reviewed and updated approximately every 5 years.

The major **weaknesses** include:

1. Limited story topics resulting from controlled vocabulary.
2. Stiff and formal sentence structure, unlike normal conversation, especially in early readers.
3. Lack of consideration for special reading problems.

Language Experience Approach

The language experience approach uses the students' experiences as the basis for reading material. Students think about their experiences, talk about them, write or have someone write about them, and then read them. The story can be an individual or group composition. Because the stories are developed by the student(s), they are motivational. Every child has experiences that can be converted into stories. These stories, containing the student's own language patterns and a familiar context, seem to be easier to read than basal readers.

Students also begin to see the relationship between reading and oral language.

The language experience approach can be used at all school levels. Sometimes it forms the basis of a student's reading program while for other students it is used as supplementary material.

The format followed is usually the same or similar to the one described here:

1. The teacher encourages the student(s) to talk about an experience.
2. The experience is thoroughly discussed.
3. A title is selected for the story.
4. The teacher writes the title on the blackboard or chart paper.
5. Student(s) offer details to add to the story.
6. The teacher calls attention to capitalization and punctuation as the teacher writes.
7. The teacher reads each idea aloud.
8. The teacher reads the entire story. (The teacher sweeps her hand under each line to emphasize the left-to-right progression.)
9. The students read the story.

Once the story has been completed, the following activities can be used to develop reading skills:

1. The teacher prepares duplicate charts — one for the story as a whole and one for sentence strips. The students can read the story or find certain words. Sentence strips can be matched with the lines in the story or used to reconstruct the original sequence of the story.
2. Word cards are made for common, new, and unique words. These cards can be used for drill on sight words, to work on word recognition skills, and to develop comprehension skills. After a number of word cards have been accumulated, they can be used to compose sentences and stories. Word cards can also be used in word matching games.
3. Stories are kept in a booklet and each story illustrated.
4. Students recopy their own stories from the chart to provide practice in handwriting.
5. Each student has an exercise book that can be used as a personal journal to encourage independent written expression.

6. Words from the students' stories are used as spelling words. The student creates a personal dictionary to associate the words, the spelling, and the meaning.
7. The chart story is used to teach word-attack skills.
8. The teacher generates questions about the story to improve comprehension abilities at different levels.
9. Students are given practice in sequencing by checking whether the events in the story are in the correct order in terms of what actually happened.
10. Content from other subject areas is integrated into stories.
11. Parts of the story are changed to alter outcomes or to add a creative ending.

The advantages of the language experience approach are: (1) it incorporates all learning modes, (2) it may promote a better self-concept as it demonstrates to the student that the student's ideas are important and interesting, (3) it promotes closer contact between the teacher and the student(s), and (4) it utilizes content from all subject areas.

The disadvantages are: (1) this approach lacks sequential development of reading skills, (2) the vocabulary is uncontrolled, (3) charts can be memorized, and (4) the approach is too limited to be used in isolation.

Directed Reading - Thinking Activity

The Directed Reading - Thinking Activity (DRTA), developed by Stauffer (1969), is an instructional strategy approach that focuses on the teacher's role in directing reading as a thinking activity. Either basal readers or content area selections can be used. Students are encouraged to think as they read, make predictions, and check their accuracy. To motivate the student, the teacher involves him or her intellectually and encourages the student to evaluate tentative solutions. DRTA has two components — a process and a product.

The **process** consists of:

1. identifying purposes for reading,
2. guiding the adjustment of reading rate to fit the purpose and material,
3. observing the reading in order to diagnose difficulties and offer help, and
4. developing comprehension.

The **product** component consists of skill-building activities. Because students are interacting with the reading material, their comprehension skills improve. Their attitudes toward reading improve if the material is at an appropriate level. The DRTA draws on the students' prior knowledge and encourages attention to the task. Students are expected to organize and reorganize new information continuously so that it fits with their prior knowledge.

Individualized Reading Approach

Individualized reading programs are usually implemented on a limited scale because of the time and effort required to collect materials and develop units of study in the classroom. The teacher must have available a vast supply of reading materials that are at a variety of reading levels and covering different interest areas. The collection must be constantly supplemented and updated. In addition, the teacher must read a large number of the books and keep files of comprehension questions and answers on these books.

The characteristics of the individualized reading approach include:

1. Self-selection. Students choose material they are interested in reading.
2. Self-pacing. Students read the material at their own pace.
3. Skills instruction. Word recognition and comprehension skills are developed when needed.
4. Record-keeping. The teacher keeps records on the progress of each student.
5. Student-teacher conferences. The teacher schedules regular conferences with each student.
6. Sharing activities. Time is planned each week for students to share books they have read with the entire class or a small group.
7. Independent work. Students work alone.

To implement an individualized reading program, the following preparatory steps are necessary:

1. The teacher plans the routines to be followed in the classroom (how books are to be checked out, how conferences will be set up, how the child needing assistance will receive help, and rules for quiet reading time).
2. The teacher determines the reading levels and interests of the students.
3. The reading difficulty of the materials collected is determined by means of a readability formula.
4. The teacher organizes content from other subject areas into units of study.
5. The teacher identifies, collects, and stores the materials at different reading levels.
6. The teacher devises a record-keeping system (e.g., a file folder for each student containing checklists for strengths and weaknesses, progress made, and materials read).
7. The teacher determines the conference format. The student-teacher conference can be used to help choose appropriate books, check comprehension, check word-attack skills, and teach specific strategies.

Smith and Barrett (1979) outline the following plan for implementing individualized instruction in a content area at the grade 8 level.

Step 1:

Teacher introduces the unit (motivates, gives background information, explains objectives in terms of student learning, and explains procedures).

Step 2:

Teacher makes different reading assignments (materials and purposes) to different students or student groups. The teacher might divide a typical class into three or four groups according to reading ability and distribute sets of materials so that six or seven students read the same selection.

Step 3:

Teacher acts as a resource person for individual students needing help to complete their reading assignments. Students or groups which finish early should spend their

time rereading the assignment or reading self-selected material, perhaps from a table of supplementary course readings.

Step 4:

Individuals and/or groups present the information they learned to the class (oral reports, panel discussions, drawings, debates, dramatizations). A definite time limit should be set and adhered to for the presentations. Five to ten minutes is sufficient for most presentations and straightforward oral reporting from notes is most efficient.

Step 5:

Teacher "pulls together" information from the presentations. (For example, "These are the important pieces of information to remember from the first group's report...from Maria's presentation...".)

Step 6:

Teacher contributes what he or she wants the class to know (lecture, discussion, film, demonstration).

Step 7:

Teacher evaluates (unit test that holds students accountable for information presented by students and by the teacher). (Smith and Barrett, 1979, page 155.)

The main **advantages** of the individualized reading approach are: (1) there is built-in motivation in reading books that are personally chosen, (2) children are not negatively compared at the same level, (3) students read at their own rates, and (4) personal contact between the teacher and student is increased.

Disadvantages include: (1) the time needed to collect material, schedule conferences, and ensure reading skills are mastered, (2) the enormous amount of bookkeeping and record-keeping, and (3) the lack of a sequential approach to skill development (Burns and Roe, 1980).

There are a variety of instructional frameworks and learning strategies for improving comprehension. These techniques are intended for use in various content areas and can be adapted to suit the age and grade level of the student involved. Most, however, are particularly useful for the secondary level.

The ReQuest Procedure

The **ReQuest Procedure** (Manzo, 1968) is designed to encourage students to formulate their own questions and acquire reasonable purposes for reading. These six steps are suggested when this program is implemented:

1. **Preparation of material.** The teacher selects appropriate reading material that can be used to make predictions and which is at the student's reading level.
2. **Development readiness for the strategy.** The teacher explains to the student the purpose for the reading selection and that the student must be prepared to ask and answer questions as he or she reads. Tierney et al. (1980) suggest that the questions must be answered fully. The teacher should be aware of the need to:
 - a. build student interest in the procedure,
 - b. introduce selected vocabulary,
 - c. develop some background for understanding the passage, and
 - d. provide the students with some understanding of the rules of ReQuest (Tierney et al., 1980).
3. **Development of student questioning behaviors.** The teacher actively participates in this phase and provides a good model for questioning behavior. This procedure entails:
 - a. teacher and student read first sentence silently,
 - b. student questions the teacher, and the teacher responds, reinforces appropriate questioning behavior and, if necessary, requests rephrasing of unclear questions, and
 - c. exchange of roles — teacher questions student.
4. **Development of student predictive behaviors.** When the student has read to where a prediction might be made, the questioning stops, and the teacher attempts to get predictions and validation from the student. If the predictions are reasonable, the student can carry on with step five. If not, the student and teacher carry on with questions and answers.

5. **Silent reading activity.** The student reads to the end of the passage. The teacher assists, as needed, in order not to disrupt the student's comprehension.

6. **Follow-up activities.** Students apply the information gained from reading, or discuss their predictions.

The REAP Technique

The REAP (Read, Encode, Annotate, Ponder) technique (Eanet and Manzo, 1976) is used to:

1. Improve reading comprehension skills by helping readers synthesize an author's ideas into their own words.
2. Tierney et al. (1980) suggest that central to the REAP technique is developing students' ability to write annotations as an aid for future study and recall of ideas. The strategy involves teaching students to write annotations:

Step One:	Recognizing and defining
Step Two:	Discriminating
Step Three:	Modelling the process
Step Four:	Practicing

Structured Overview Strategy

The Structured Overview Strategy (Earle, 1969a), is intended for students in grade 7 and above, but Tierney et al., (1980) suggest that students in grades 4, 5, or 6 could also profit from this approach. The purpose of the structured overview is:

1. To provide a logical means of pre-teaching the technical vocabulary of a content chapter,
2. To present the students with an "idea framework," designed to show important relationships in content vocabulary, and
3. To help teachers clarify teaching goals.

The structured overview strategy involves three stages:

1. **Preparation.** The teacher decides what major ideas are to be stressed during the lesson.
 - a. Select words. The teacher establishes the instructional objectives by selecting the major concepts the student should have by the end of the lesson. Dealing with one concept at a time, the teacher can ask "What important words in this chapter help to describe, explain, and/or communicate this idea?"

- b. Arrange words. The words are arranged in a diagram to show how they interrelate.
 - c. Add previously learned key words and ideas. The teacher takes words learned previously and inserts these into the overview. This can enhance understanding of the new words and concepts and relate the learning activities to each other.
 - d. Evaluate overview. Try the overview on someone who is not an expert in structured overview. Ask questions that will indicate whether the person has a grasp of the relationships among the terms.
2. **Presentation.** The overview is presented on the overhead or chalkboard. As the teacher talks about the overview, students participate by adding their own questions and comments. After approximately five to ten minutes, the students should have an idea of what the chapter or section is about.
3. **Follow-up.** The overview can be used as a springboard to new ideas or added information. The teacher may ask how this new information might fit into the overview. The overview might be displayed during the time the chapter is being studied.

Herringbone Technique

The Herringbone Technique helps students in grades 4 to 12 organize important

information in a chapter. The teacher asks the questions Who? What? Where? When? How? and Why? in the preparation story and the students ask these six questions during the activity.

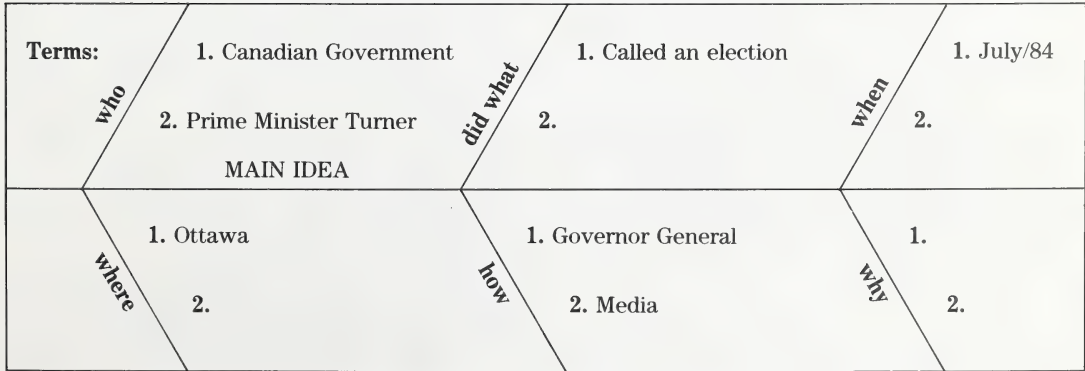
A Herringbone form (see Figure 5) can be copied for the students with the instructions that they are to find the answers to the questions as they read through the chapter. Initially the teacher could go through the form with the class, writing the information on a transparency copy.

When the students have been prepared for the information in the chapter and for using the Herringbone Technique, students should read the information with these expanded questions in mind (Tierney et al, 1980).

1. Who was involved? (Answer should yield the name of one or more persons or groups.)
2. What did this person or group do?
3. When was it done (the event discovered in question 2)?
4. Where was it done?
5. How was it accomplished?
6. Why did it happen?

The information that is gathered and placed on the Herringbone form may be insufficient; therefore the teacher may ask the students to find additional information from different sources. When students have completed the chapter, they are asked to provide a statement of the main idea of the chapter.

Figure 5
Herringbone Technique



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Selective Reading Guide-O-Rama Program

The major objectives of the Selective Reading Guide-O-Rama (Cunningham and Shablak, 1975) are:

1. To lead students to the major ideas and supporting details within a content text chapter, and
2. To teach students flexibility in their reading.

The program, which is best suited to students in grades 6 and above, assumes that students read material in a text and place equal importance on all of it. Therefore it is the teacher's task to guide the students' reading and provide clues as to what information is important.

Tierney et al. (1980) suggest some questions the teacher should ask himself or herself in preparation for the Selective Reading Guide-O-Rama:

1. What should students know when they finish this chapter?
 - a. What are the major concepts that the students should understand?
 - b. What supporting information or details should they remember on a long-term basis?
2. What should students be able to do when they finish the chapter? What background information is needed to perform the required tasks?

The teacher must identify the areas in the text to be emphasized, and indicate what is a main idea or important detail. This type of information is written down in guide form. For example (Tierney et al., 1980, pages 70-71):

page 93, paragraphs 3-6. Pay special attention to this section. Why do you think Hunter acted in this manner? We will discuss your ideas later in class.

page 94, subtopic in bold face print. Rewrite the topic to form a question. Read the information under the subtopic to answer the question. Jot down your answers on the space below.

The guide should move the student sequentially through the chapter, beginning to end. As the student begins to learn how to read through a chapter the Guide-O-Rama can be slowly phased out. Tierney et al. (1980) suggest that students who have difficulty following the written Guide-O-Rama may listen to instructions on cassette tape.

SQ3R Approach

SQ3R is a study method designed by Robinson (1961). SQ3R stands for Survey, Question, Read, Recite, Review. The steps involved in the SQ3R approach are:

1. **Survey.** Notice chapter titles and main headings before you actually read the assignments. Then read introductory and summary paragraphs, and inspect graphs, charts, etc. This initial survey provides a framework for organizing facts.
2. **Question.** Formulate a list of questions to be answered when reading the passage.
3. **Read.** Read the passage to answer the questions.
4. **Recite.** Try to answer the questions without looking at the material you have read.
5. **Review.** Verify or correct your recited answers by rereading the passage and noting the main points and the relationships that exist among various points.

This method helps students remember **content material**. Students may need special help and encouragement to generate questions. Another questioning method developed especially for elementary students is the SQRQCQ (Survey, Question, Read, Question, Compute, Question) method used in reading mathematics and science materials.

The Phonics Approach

The phonics approach is one which emphasizes the skill of associating grapheme-phoneme (symbol-sound) relationships. The students then use these to assist in word recognition. It has been highly emphasized and a large number of workbooks and readers have been designed on this basis.

Some argue that this approach is a difficult one for students displaying problems with auditory discrimination (discriminating between sounds, e.g., the sound of b and d), as well as those with problems in retaining information they have heard (auditory memory).

Visual Approach

The visual approach uses basically a “whole word” approach as compared to the highly analytic and then synthesis approach of the phonics method. The visual shape of the word or letters are sometimes emphasized in order to aid recognition. An initial vocabulary of known words is built up and then these words are broken down into their grapheme-phoneme relationships to build decoding skills to be used in attacking other words. There is a chance that the visual approach might encourage guessing particularly with those youngsters displaying impulsive behavior.

The Linguistic Approach

This particular approach places the emphasis on the reader’s oral language skills and the relationship of these oral skills to the written textual material. The focus is on “meaning” and de-emphasizes the analytic approach to the decoding of words found in the phonics approach and, to some extent, the visual method.

This approach utilizes aspects of the “sight word” approach as it teaches parts of words such as ‘op’ and ‘at’ for recognition, and then adds letters to these to provide the known word (e.g., top, pop, etc.).

Some programs assume that the reader will be able independently to discover the relationship between the sound and the letter, but this link may be difficult for the disabled reader.

Although this system has the advantage of using visual analysis while reducing the phonetic load, students may still be overloaded by having to learn too many sounds at once. (Recipe for Reading is an exception.)

Use of Technology

Tape recorders, computers, filmstrips, and videos can supplement many of the above mentioned approaches, often providing variety and increasing student motivation.

Tape recorders are effective both in the use of pre-recorded books, and in the taping of students’ readings. Taped texts for core subjects are of benefit to the slower reader.

Computers may be programmed as a tachistoscope to aid in reading fluency.

Videos and films are valuable supplements to the reading of both novels and textbooks, as they can expand and enhance comprehension, and increase interest in reading.

Programming Suggestions for Specific Disabilities

Within the classroom reading program, teachers can address the unique strengths and weaknesses of individual learning disabled students. The students’ strengths need to be utilized fully in the instructional approach, and their weaknesses improved as much as possible. Some techniques for remediating specific disabilities are:

Language Deficits

1. Use teaching approaches, such as the Language Experience approach, that encourage students to be involved in language usage.
2. Provide opportunities for small groups of students to discuss, interact with others, listen, and raise questions regarding reading material.
3. Provide reading and field trip experiences to broaden students’ knowledge base and to introduce new vocabulary.
4. Relate reading to personal experiences and familiar oral language forms.
5. Respond to students’ ideas with enthusiasm, regardless of their language form. Once a student begins to communicate, you have something upon which to build.
6. Do not repeat the student’s response in a correcting effort.

Listening Deficits

Developing listening skills should increase the student's comprehension abilities and language skills, which will be reflected in academic performance.

1. Encourage courteous listening when others are talking or reading.
2. Encourage discriminating listening skills to aid in oral comprehension of materials in all content areas.
3. Teach listening attention skills so that students can interact in discussions about reading stories and make pertinent comments.
4. Increase listening comprehension by developing an appreciation of orally read stories.
5. Provide opportunities for critical listening to evaluate a speaker's topic, presentation, and fluency.
6. Help students realize that listening carefully will help them to obtain information in various situations and from various audio-visual media.
7. Encourage students to listen to themselves and note their articulation, vocabulary, and ways of expressing ideas. Self-evaluation may lead to improved receptive and expressive language skills, which will be reflected in improved academic performance.
8. Provide oral sequencing drills to assist students in organizing ideas.
9. Present several ideas orally and have students classify them in relation to a selected topic.
10. Vary oral instruction approaches so that students have opportunities to interact and not become bored. When students realize they are required to interact, they listen more carefully.
11. Make use of audio-visual media that present information auditorily.
12. Help students realize that listening involves more than hearing; it also involves interaction.

(See the section on oral expression for some additional ideas on developing listening skills.)

Visual Deficits

1. Provide matching games that require visual discrimination of letters, words, or sentences.
2. Have students use their language skills to describe letters, words, and stories so that a mental visual image is formed and associated with their verbal description.
3. Foster the use of context clues in reading.
4. If auditory discrimination is not a problem, use phonetic analysis skills for word recognition.
5. To prevent attention problems limit visual activities in reading.
6. Use newspapers to develop visual skills (e.g., conduct word hunts; find words in advertisements that have unique features).
7. Keep written work activities short, clear, and familiar.
8. Use computer-assisted reading programs that are structured and are not distracting.
9. Use concrete representations to provide sensory information (e.g., wooden letters, records and tapes, puppets).

Auditory Deficits

1. Use games that teach auditory discrimination of initial, medial, and final consonant sounds.
2. Read poems that have rhyming elements.
3. Speak clearly at an adequate volume so that students can begin to distinguish various pronunciations.
4. Seat the students away from distracting sounds when teaching or listening to reading.
5. Use configuration clues for word recognition.
6. Practise exercises that stress gross auditory differences in words and gradually move to exercises involving finer auditory discrimination.
7. Utilize visual-imagery and self-instructional strategies in developing reading skills.

Attention Deficits

1. Have the students physically involved in the instructional reading program.
2. To maintain interest, use multiple techniques, various materials, and frequent changes of pace during instruction.
3. Keep the learning environment free of distractions.

4. Play games such as “Concentration” to increase attending abilities. Word pairs can be used instead by playing cards.
5. Use readers that contain a minimum of pictures to focus the students’ attention upon the print and the skills necessary to read it.
6. Provide appropriate reading materials along with cognitive strategies to heighten interest and increase attention.

Perceptual and/or Spatial Deficits

1. Discuss directional differences in letters and words and provide activities for direct matching.
2. Use multisensory approaches to reading where reading stimuli are presented through the visual, auditory, kinesthetic, and tactile channels (VAKT).
3. Have students complete activities requiring that they fill in missing letters or words.
4. Use opportunities for writing experiences to highlight the left-to-right formation of words across a line, spacing, and visual differences in letters and words.
5. Let students use markers as guides to keep their place when reading orally.

Affective Problems

1. Help students develop a more positive attitude toward reading through successful learning activities.
2. Provide reading material that is relevant and suits the students’ interests and age.
3. Increase confidence by building on the students’ existing strategies in reading.
4. Value the students’ efforts in reading and encourage them to talk about their feelings regarding reading.
5. Let the students know you are aware of their reading difficulties and accepting of their contributions. Avoid comparing the students’ reading levels.
6. Encourage an attitude about reading that emphasizes enjoyment as well as gaining of knowledge.
7. Have books available that cover a wide range of difficulty levels and topics, and provide free reading opportunities to use them.

Programming Suggestions for Specific Reading Areas

The examples of techniques and strategies which follow may assist in developing specific reading skills. Some of these techniques may be integrated into the students’ total language arts program.

1. Developing a sight vocabulary

- a. match words with pictures
- b. attach labels to common objects
- c. present basic sight words orally and in written format in a context
- d. use the students’ own stories to relate oral words to words in print
- e. suggest that students visualize words
- f. make dictionaries using new words learned.

2. Developing word attack skills

- a. provide practice in rhyming word families
- b. present words visually — notice their visual representation and give their letter sounds
- c. discover common elements in words (e.g., short vowels)
- d. teach word attack strategies that will help the students gain meaning from sentences
- e. practice word attack and word recognition skills on the language master and computer
- f. compose sentences using different forms of a word (e.g., suffix added)
- g. set up a learning station that has self-directed word attack activities and games
- h. provide visual charts illustrating word attack skills and phonic rules
- i. give oral drill in letter sounds, rhyming, etc.

3. Developing oral reading

- a. provide practice in reading sentences with different types of punctuation
- b. encourage oral expression of daily events
- c. have students dramatize stories in their readers
- d. praise all attempts at oral reading and oral expression
- e. read to students to develop an interest in reading independently.

4. Developing comprehension

- a. teach and encourage dictionary use so students can learn multiple meanings of words
- b. sequence pictures or sentences to form a story
- c. read a story and have students decide on an appropriate title
- d. ask "wh" questions in all content areas
- e. read all of a story except the ending and ask students to predict what happened
- f. debate issues that arise in reading materials
- g. interpret characters' feelings and actions
- h. incorporate students' interests in reading materials
- i. use cloze tasks to determine what words fit and do not fit the context
- j. teach specific study techniques (e.g., survey, question, read, recite, review)
- k. illustrate stories and begin making books on subjects from different content areas.

Parent Involvement

Teachers can ask parents to help in teaching reading by suggesting since they are involved in all aspects of their child's life, they can assist educators by:

1. giving support and assistance in diagnostic and programming procedures,
2. noting frustrated reading behaviors,
3. sharing ideas on what makes their child react most effectively,
4. providing a planned time during the day suitable for reading when assistance is readily available if needed,
5. maintaining contact with the teacher so that reading progress can be evaluated,
6. being understanding and providing praise for demonstrations of skill development and good efforts to master reading material,
7. providing reading materials in the home, and encouraging communication about materials read or seen,
8. providing an environment that maintains the child's physical and emotional health (the child must feel secure and confident; pressure must not be exerted because of a reading disability).

Conclusion

The program approaches suggested are intended for use in regular classrooms as well as special settings. They seek to balance instructional approaches with special needs and to combine them with the mainstream reading curriculum. Overviews of various approaches are presented, but the teacher who intends to use any of these approaches may wish to read more about them.

Teachers must be aware of individual student's abilities and disabilities. The teacher must accept the range of student abilities within a class, and make program adjustments to meet disabilities.

Summary

The main ideas in this section are:

1. reading is a complex cognitive task requiring the integration of numerous skills,
2. reading is crucial to success in all subject areas,
3. because learning to read is complex, difficulties in any one area can influence the learning disabled student's total progress,
4. assessment procedures for learning disabled students should be comprehensive and ongoing,
5. reading success or lack thereof also influences the learning disabled student's self-concept,
6. teachers should develop cognitive skills and strategies to enable the learning disabled student to cope with the thinking demands of the reading process,
7. a number of programming options can be used to address aspects of a learning disabled student's development.

Chapter IV

Part 3

Written Expression

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Chapter Four: Part 3

Written Expression

Objectives

The purpose of this section is to:

1. note the kinds of problems learning disabled children have with handwriting,
2. provide activities for addressing handwriting problems,
3. provide a rationale for developing written expression,
4. provide activities for developing written expression,
5. provide examples of formal and informal measuring devices to assess problems with handwriting and written expression,
6. provide recommended resources for the teacher in relation to assessment results.

Introduction

Until the last few years, handwriting and written expression had received little attention in the research literature. There has been a corresponding lack of emphasis in the school curriculum on developing writing skills. The teaching of handwriting (physically producing adequate visual-graphic forms of language) is usually emphasized at the early elementary school levels while written expression becomes most critical at the upper elementary and junior high school levels. However, developing skills in written expression should be emphasized throughout students' schooling.

Writing requires proficiency in a variety of areas including receptive and expressive language, spelling, reading, linguistics, visual-motor integration skills, and cognitive awareness. Skills in written expressions are important for academic success in secondary and post-secondary settings. Difficulty in expressing one's thoughts in written form is probably one of the most prevalent problems of learning disabled students (Lerner, 1976).

This chapter deals separately with specific aspects of handwriting and written expression.

Following are reasons why learning disabled students need to develop their writing skills:

1. Writing is essential to effective functioning in many academic areas.
2. A lack of writing skills can affect the perceptions of others regarding a person's ability; it can also affect self-perception.
3. Because problems in writing are visible, they may have a great effect on the student's motivation and interest in learning.
4. Writing is a way of developing the means to organize, control, and direct thought, a particularly difficult task for learning disabled students.
5. Writing can be an aid to thinking and ideation.

Learning disabled students may have the following problems in handwriting:

1. Difficulty in letter formation.
2. Difficulty in using appropriate spacing between letters or words.
3. Difficulty in maintaining consistency in letter size and spacing.
4. Difficulty recalling appropriate procedures for capitalization, punctuation, etc.

Learning disabled students may have the following problems in written expression:

1. Inability to plan, organize, and sort information into main ideas and details.
2. Difficulty in keeping in mind and coordinating the sequence of ideas, in retrieving appropriate letters or words, and in producing appropriate motor movements simultaneously.
3. Inability to use appropriate syntax and semantic cues.
4. Difficulty in monitoring written expression.
5. Difficulty in overcoming a negative self-image due to repeated negative experiences with written work.
6. Lack of adequate vocabulary to express ideas.
7. Inability to read the printed word.

Other possible sources of problems in writing are:

1. Written expression requires facility in oral receptive language, expressive language, spelling, and reading.
2. Written work is often treated as a by-product of other areas such as reading, social studies and science, and not as a skill to be developed in its own right and integrated with other aspects of the curriculum.
3. Instruction for the learning disabled student may be unclear, inconsistent, or lacking in structure.
4. Written tasks may not have been presented in their order of difficulty, moving from simple tasks to the more complex.

Handwriting, knowledge of print conventions, and particularly the ability to express oneself in written form, are all very difficult and complex skills. Before any specific intervention can be carried out, the teacher must determine the particular student's strengths and weaknesses. The following sections will present formal and informal assessment procedures and ideas for intervention in the particular areas of handwriting and written expression.

Assessing Present Levels of Performance in Writing

These initial questions can be asked in reference to writing:

1. Does the student have sufficient mental ability for written work?
2. Does the student demonstrate adequate gross and fine motor skills for written work?
3. Does the student demonstrate adequate hearing, speech/oral language, and vision?
4. What is the student's general level of writing skill?
5. What are the student's particular areas of strength and weakness in written work?
6. What instructional procedures have been used in developing writing skills for the student?
7. What is the student's perception of his/her written work?

The following sections will discuss formal and informal assessment and intervention, first for handwriting and then for written expression.

Assessing Handwriting

General Aims of Assessing the Student's Handwriting

1. To measure the student's handwriting skill.
2. To know the student's handwriting errors.
3. To observe the student's behavior while writing.
4. To measure the student's own perception of his or her handwriting.

Formal Assessment

Formal measures are available to assess the student's handwriting ability. The following is a selective list of tests the teacher could use to determine the level of the student's handwriting skills.

Tests	Characteristics
Basic School Skill Inventory (Hamill and Leigh, 1983)	Age: 4.0 to 6.11 years Purpose: The handwriting subtest of this assessment battery assesses student readiness for handwriting instruction in ten different tasks. These include: (1) printing from left to right; (2) grasping a pencil; (3) printing first name; (4) maintaining proper writing position; (5) drawing geometric figures; (6) copying words; (7) drawing a person; (8) copying a word from chalkboard to paper; (9) staying on the line.
Zaner-Bloser Evaluation Scales (Zaner-Bloser, 1979)	Grades: 1 to 8 Purpose: This instrument includes scales for grades 1 to 3 writing in manuscript style, and scales for grades 2 to 8 in cursive style. For each grade level, five specimens of handwriting are provided: high, good, medium, fair, and poor.
Brigance Diagnostic Inventories	Grades: ECS to 6 Purpose: Assesses handwriting readiness. Because it is criterion referenced it can also be used as a guide for selecting instructional goals.
Test of Written Language (Gammill and Larsen, 1978)	Grades: 3 to 8 Purpose: The handwriting subtest provides guidelines for scoring cursive writing skills on an eleven-point rating scale. Examples of handwriting at each rating level are provided in the manual.

Informal Assessment of Handwriting

The most relevant information on the student's handwriting ability comes from the teacher's own observations of the student. As was the case in spelling and mathematics, a close examination of the student's errors helps to choose the most appropriate intervention.

The most important step is to obtain written samples of the student's handwriting. The regular class routine allows the teacher to collect samples of the student's handwriting. These samples can then be evaluated with respect to the student's age, grade level, and the type of errors evidenced. The informal assessment should then indicate what figures, letters, and words the student can or cannot produce, and under what circumstances. The student, for example, may be able to copy letters from the blackboard or from another piece of written work, but be unable to write from dictation.

The teacher should consider the following factors:

1. Does the student have visual difficulties? Has the student had a recent eye examination? Can the student copy from near and far?
2. Does the student use an awkward grasp of the writing instrument?
3. Can the student functionally grip and control the writing instrument?
4. Does the student have poor or unusual posture when attempting to write?
5. Does the student show adequate hand-eye co-ordination?
6. Does the student tire easily?
7. Is the student aware of appropriate organization for task beginning?

In a research study examining cursive writing performance, Newland (1959) identifies a number of common handwriting errors and suggests that instruction in producing more legible letters will improve general handwriting legibility. The following is based primarily on his findings:

Analysis of Handwriting Errors

(Printing or Script Depending on Child)

I. Reproduction Errors:

1. Distortions:

- a. using rounded up-strokes instead of straight ones
- b. down-loop turned incorrectly
- c. excessive flourishes
- d. up-loop turned incorrectly
- e. unrecognizably recorded.

2. Rotations:

- a. inversion of letters
- b. rotation of letters.

3. Integration:

- a. failure to close letters
- b. top loops closed
- c. looping non-looped strokes
- d. using straight up-strokes rather than rounded strokes
- e. difficulty crossing "t"
- f. difficulty dotting "i"
- g. closing letters which should not be closed
- h. beginning strokes off line
- i. down-loop closed
- j. integration errors within words.

4. Size:

- a. end stroke difficulty:
 - not brought up
 - not brought down
 - not left horizontal
- b. top short
- c. letters too small
- d. up-stroke too long
- e. letters too large
- f. bottom short
- g. down-stroke too long.

5. Incorrect form:

- a. printing for script
- b. substitution of capitals for lower case and vice versa.

6. Omissions/additions:

- a. part of letter omitted
- b. part added to letter.

7. Perseveration

8. Unclassified

II. Spacing Errors:

1. No space or insufficient space between words
2. Letter running together.

As well as these errors, the student may also have difficulties in planning and organizing his or her handwriting. The teacher must observe the student's approach to handwriting as well as the handwriting itself in order to determine where the difficulties are.

Intervention: Handwriting

This section discusses the teaching of handwriting to those students who have been singled out as having difficulties by the formal or informal assessments.

Issues in Teaching Handwriting

There is a considerable debate regarding the sequence of teaching cursive and manuscript writing. Some experts suggest that cursive writing may be more appropriate to begin with, as it has a rhythmic continuity, reversal errors are essentially eliminated, and there is no need to transfer to another form of writing. Manuscript writing, however, is thought to be easier to learn, more closely resembles actual print in text reading, and there is no real need to learn to write cursively anyway since manuscript writing can be as rapid as cursive. Hammill et al (1984) indicate that in most cases it probably doesn't matter which is taught first.

The teaching of handwriting skills is best done within the context of direct instruction in writing. Perceptual-motor activities — such as tracing geometric shapes, board exercises, and other activities which do not involved the writing of letters — are also useful. Direction instruction in the writing act is important to produce adequate writing skills.

Integration

It is important that the skills taught be applied in every subject. This can be done easily by using maps, charts, etc. in science, social studies, and mathematics, to emphasize and reinforce the skills taught in handwriting. The vocabulary from other subjects is ideal for use in handwriting instruction. The difficulty that the learning disabled students evidence in generalizing skills makes it imperative to build this ability directly.

At the junior and senior high school levels, depending on the severity of the problem, it may be more productive to teach compensation skills which involve an alternative mode of expression — e.g., a typewriter or a computer or a tape recorder. The teacher could also use oral, multiple choice, or other approaches to testing knowledge rather than the traditional essay exam. The requirement for written work could be reduced wherever possible, including the necessity for copying from the blackboard. This topic receives further attention in the section on the adolescent.

Written Expression

Characteristics of the Written Expression of the Learning Disabled

In the area of written expression learning disabled students often have difficulty with vocabulary, syntax, maturity of themes, organization, sequencing, and knowledge of print conventions (capitalization and punctuation). Those learning disabled students who have receptive and expressive language difficulties, as noted above, will also likely have difficulty with written expression skills.

Formal Assessment of Written Expression

There are a number of formal tests available which assist in determining the writing skill level of the student. Alley and Deshler (1979) have described the areas of written expressions which need to be evaluated in the learning disabled student. Included are:

1. The student's attitude towards writing (stress, motivation, etc.).
2. The content written, including: reflection of the world (e.g., reports of happenings, retelling, summaries, etc.), conception of relationships (e.g., compare-contrast, cause-effect, classification, etc.), projection of explanatory schemes (e.g., hypothesis, plan of action, etc.), expression of one's own view (e.g., feelings, opinions, etc.).
3. The physical aspects of the written work including: organization and sequence, vocabulary, sentence variety, use of questions, summaries and paraphrasing, and mechanical factors.

They also suggest three other aspects which, for children with writing problems, may need special attention. These include the monitoring ability of their written work, their written test-taking skills, and their note-taking skills from class as well as from the text.

Formal Assessment

The tests used most frequently to assess the student's ability in written expression are:

Tests	Description
Canadian Test of Basic Skills (Hieronymus and King, 1973)	Grades 1.7 to 8 Purpose: To test the student's ability with print conventions – especially capitalization, punctuation, and usage.
Test of Written English (Anderson and Thompson, 1979)	Grades 1 to 6 Purpose: This test is designed to measure the student's mastery of capitalization, punctuation, written expression, and paragraph writing. Scores can be determined according to grade level, and remedial activities for each skill area tested are given.
Metropolitan Achievement Tests (Balow et al., 1979)	Grades ECS to 9 Purpose: The Language Instructional Tests section of this achievement test battery evaluates punctuation, capitalization, usage, grammar and syntax, and spelling.
Test of Written Language (TOWL) (Hammill and Larsen, 1983)	Grades 2 to 8 Purpose: The TOWL is a standardized test for groups or individuals which is used to identify students who have problems in written expression. The areas of written expression that are assessed include: vocabulary, thematic maturity, spelling, word usage, style, and handwriting.
Test of Adolescent Language (TOAL) (Hammill, Brown, Larsen, and Weiderholt, 1980)	Ages 11 to 18 1/2 years Purpose: This is a standardized test to assess language abilities of students in grades 7 to 12. There are two subtests that measure writing/vocabulary and writing/grammar. The student responds to test items by writing sentences.
Picture Story Language Test (Myklebust, 1965)	Ages 7 to 17 years Purpose: This test measures writing development by using a picture to elicit a written story. The scoring procedures are standardized.
Sequential Tests of Educational Progress (1972)	Grades 4 to Junior college Purpose: This test assesses the following aspects of written expression: (a) organization – ordering of ideas, events, facts; (b) conventions – syntax, word choice, punctuation, spelling; (c) critical thinking – detection of unstated assumptions, cause and effect relationships, anticipation of reader's needs; (d) effectiveness – adequacy of emphasis and development, exactness of expression, economy, simplicity, variety; and (e) appropriateness – choice of tone and vocabulary appropriate to purpose and readership.

The above formal tests of written expression provide the teacher with a structure for assessing this area. A more detailed view of the student's skills and problems can be obtained from an informal assessment by the teacher. As is the case for spelling, mathematics, and reading, an error analysis of written expression is most helpful in determining where to intervene.

Informal Assessment of Written Expression

There are a variety of inventories and checklists available for the informal assessment of written expression. One particularly comprehensive informal checklist to evaluate knowledge of print conventions has been developed by Guerin and Maier (1983). It evaluates the whole range of print conventions in a hierarchical

fashion and is therefore useful for both elementary and secondary levels. The teacher could use this checklist to determine the areas of difficulty in the student's knowledge of print conventions. Weiner (1980) has also produced a comprehensive diagnostic inventory of skills which include handwriting, knowledge of print conventions, and written expression. This instrument assesses six categories of writing — including a self-monitoring component important to learning disabled students. An adapted version of the scale follows.

Criteria for Assessment

Graphic (Visual Features)	1. Excessive pencil pressure marks	_____	_____
	2. Letter formation ambiguities; erasures	_____	_____
	3. Capital and lowercase letter mixture	_____	_____
	4. Size of spacing irregularities	_____	_____
	5. Off-line writing	_____	_____
Orthographic (Spelling)	6. Sequencing of letters (reverse order) or three consonant clusters	_____	_____
	7. Doubling final consonant	_____	_____
	8. <i>ed</i> ending with sound of <i>d</i> or <i>t</i>	_____	_____
	9. <i>y</i> becomes <i>i</i> , except before <i>ing</i>	_____	_____
	10. <i>c</i> or <i>g</i> , followed by <i>e</i> , <i>l</i> or <i>y</i>	_____	_____
	11. Silent letters in special spellings	_____	_____
Phonologic (Sound Components)	12. Letter or syllable omissions	_____	_____
	13. Words run together (syntactic grammatical)	_____	_____
	14. Subject and predicate agreement	_____	_____
	15. Tense, plural, possessive endings	_____	_____
	16. Word order; omissions	_____	_____
	17. Incomplete sentences (fragments)	_____	_____
	18. Run-on sentences	_____	_____
	19. Punctuation; indentation of paragraphs	_____	_____
	20. Variety in sentence structure	_____	_____
	21. Coordination (and/but)	_____	_____
	22. Complex sentences: subordination	_____	_____
	23. Amount of information per sentence	_____	_____

(cont'd)

Semantic (Meaning)	24. Flexible vocabulary, connotative-denotative	_____	_____
	25. Coherence; focus and tense shifts	_____	_____
	26. Logical sequencing	_____	_____
	27. Transitions	_____	_____
	28. Distinction between major and minor points	_____	_____
	29. Self-correction: spelling and punctuation	_____	_____
	30. Improvement through revision	_____	_____

Source: Weiner, E.S. Diagnostic Evaluation of Writing Skills.
Journal of Learning Disabilities (1980). Reprinted with
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As well as using the above checklist to evaluate specific writing
 skills, observation and error analysis can be used to assess students’
 written work for composition, spelling, capitalization, punctuation,
 and quality of handwriting (Wallace and Larsen, 1978). A sample
 analysis form follows:

Directions: Score each item “Adequate” (A) or “Inadequate” (B)

I. Capitalization		A	B
A. Basic Level			
	1. First word of a sentence	_____	_____
	2. The word I	_____	_____
	3. Proper nouns; words used as proper nouns <i>(George, Georgian, Spain, Spanish)</i>	_____	_____
	4. Names of peoples, races, tribes, languages <i>(Chinese, Caucasian, Iroquois, Latin)</i>	_____	_____
	5. Titles <i>(Queen Elizabeth, Prime Minister Trudeau, Premier Getty)</i>	_____	_____
	6. Holidays, months of the year, days of the week	_____	_____
	7. Titles of books, plays, magazines (except prepositions) <i>(The Taming of the Shrew, Crime and Punishment)</i>	_____	_____
B. Advanced Level			
	1. First line of verse	_____	_____
	2. Names of various treaties, acts, period, important events <i>(Versailles Treaty, the Crusades, Prehistoric age)</i>	_____	_____
	3. General geographic terms that are part of a specific name <i>(St. Lawrence Seaway, Eastern Atlantic)</i>	_____	_____
	4. Names of registered trademarks <i>(Coca-Cola, Chevrolet)</i>	_____	_____

(cont’d)

II. Punctuation

A. Basic Level

	A	B
1. Period		
a. End of sentence	_____	_____
2. Comma		
a. To separate independent phrases joined by a coordinating conjunction	_____	_____
b. To separate words in a list	_____	_____
c. Between cities and provinces, date and year	_____	_____
d. To separate a quotation from the rest of the sentence	_____	_____
e. After the salutation and closing in a letter	_____	_____
f. In numbers to separate hundreds, thousands, and millions	_____	_____
3. Question mark		
a. At the end of a question	_____	_____
b. After a question that is part of a quotation	_____	_____
4. Colon		
a. To indicate that a list will follow	_____	_____
b. To separate the hour and minutes	_____	_____
5. Exclamation point		
a. After an exclamation	_____	_____
6. Quotation marks		
a. To indicate the exact words of a speaker	_____	_____
b. To indicate the title of part of a book, a lecture, painting, or ship	_____	_____
7. Apostrophe		
a. To indicate possession	_____	_____
b. In a contraction	_____	_____
8. Hyphen		
a. To separate syllables in a word at the end of line	_____	_____
9. Underline		
a. To indicate that the word or words are a book title	_____	_____

B. Advanced Level

1. Period		
a. After heading in outlines, lists, displays	_____	_____
b. To indicate intentional omission or interrupted sentence (<i>So I told her...come on time.</i>)	_____	_____
2. Comma		
a. Words placed out of natural position (<i>He came into the room and, after wiping his feet, sat down.</i>)	_____	_____
b. Before "of" in indicating residence or position (<i>Premier Don Getty, of Alberta</i>)	_____	_____
3. Question Mark		
a. In parentheses at the end of a word, phrase, or date to indicate uncertainty (<i>Omar Khayham ? - 1123?</i>)	_____	_____

(cont'd)

B. Advanced Level
(continued)

	A	B
4. Semicolon		
a. To separate the clauses of compound sentences in the absence of a conjunction or if the clauses are oppositional (<i>Make no terms; resist to the last.</i>)	_____	_____
b. Before an illustrative phrase (<i>It was a good idea; for example, it worked on Friday.</i>)	_____	_____
5. Colon		
a. After the salutation in a business letter (<i>Dear Sir:</i>)	_____	_____
b. To introduce a formal direct quote (<i>Abbot said: The troops came directly from Paris.</i>)	_____	_____
c. To separate point of numerical ratios (<i>24:31</i>)	_____	_____
d. Between chapter and verse in a biblical quote, or volume and page number in a bibliographic quote (<i>Corinthians 13:4-13; Journ. of Admin., 17:31-35.</i>)	_____	_____
6. Dash		
a. To mark an abrupt change in the sentence (<i>"If you will listen, I will explain - but perhaps you do not care."</i>)	_____	_____
b. To indicate omission of letter or words (<i>Mr. M-- of New York; yelling --- loudly.</i>)	_____	_____
c. To indicate "to" in dates or places (<i>1980-1983, Lisbon-New York</i>)	_____	_____
7. Parentheses		
a. To set off a word or comment by way of explanation (<i>That is the truth [enough for him to know].</i>)	_____	_____
8. Quotation Marks		
a. To indicate a quotation within a quotation (<i>"I heard him say: 'Don't be late', and then he closed the door."</i>)	_____	_____
b. To enclose technical terms (<i>This is a "permanent press" shirt.</i>)	_____	_____
9. Hyphen		
a. In a compound word when the second element is capitalized (<i>pro-American</i>)	_____	_____
b. To indicate a relationship between words (<i>one-to-one</i>)	_____	_____
c. In a compound word when the first letter is "i" (<i>self-inflicted</i>)	_____	_____
d. To avoid doubling a vowel if it will be confusing (<i>anti-establishment</i>)	_____	_____
10. Underline		
a. To indicate italics	_____	_____

(cont'd)

III. Format

A. Basic Level

	A	B
1. Narrative writing		
a. Indenting paragraph	_____	_____
b. Quotations as separate paragraphs	_____	_____
c. Titles	_____	_____
2. Plays		
a. Dialogue	_____	_____
3. Letters		
a. Personal		
(1) Date	_____	_____
(2) Salutation	_____	_____
(3) Body	_____	_____
(4) Closing	_____	_____
b. Business		
(1) Internal address	_____	_____
(2) Addressing envelopes	_____	_____
4. Study skills		
a. Heading	_____	_____
b. Outlining	_____	_____
c. Lists	_____	_____
d. Reports		
(1) Introduction	_____	_____
(2) Body	_____	_____
(3) Summary	_____	_____
(4) Conclusions	_____	_____

B. Advanced Level

1. Narrative writing		
a. Chapters	_____	_____
b. Subtopics	_____	_____
2. Plays		
a. Stage direction	_____	_____
b. Set direction	_____	_____
3. Poetry	_____	_____
4. Letters		
a. Business		
(1) Requests	_____	_____
(2) Invoices	_____	_____
(3) Announcements	_____	_____
(4) Invitations	_____	_____
5. Study skills		
a. Reports		
(1) Note taking	_____	_____
(2) Annotation	_____	_____
(3) References/Bibliography	_____	_____
(4) Scientific reports	_____	_____
(5) Graphs	_____	_____
(6) Tables	_____	_____

When assessing the quality of written expression the distinction between narrative and expository writing must be kept in mind. Evaluation checklists for narrative and expository writing are provided on the next three pages.

Standards for Evaluating Composing Skills for Narrative Writing

	Low	Middle	High
Story Structure	No identifiable beginning, middle, or end. Story problem unclear. Action and characters not developed or related. Essential detail missing or confusing. Story problem not solved, or resolution unrelated to events.	Beginning, middle, and end present, but not always identifiable. Story problem presented, but not completely developed. Some conversational or descriptive details included. Ending may not show logical resolution of problem.	Identifiable beginning, middle, and end. Characters introduced and problem presented. Character problems well-developed with appropriate conversational or descriptive details. Story ends with believable resolution of problem.
Story Setting	Setting of the story not identifiable. Details inappropriate and confusing.	Time and place are hinted at, but uncertain. Further references to setting may be inconsistent with original time or place.	Time and place of story clearly set. Specific details related to setting given in appropriate context. Setting consistent throughout the story.
Story Characters	Characters not believable. Details related to character development are inconsistent, inappropriate, or missing. Difficult to distinguish one character from another. Action of characters unrelated to problem.	Characters somewhat believable. Some descriptive or conversational details given. Details may not develop personality of character. Action of characters not always related to problem. Major and minor characters not clearly discernable.	Characters believable. Descriptive or conversational detail develops personality of character. Action of characters relates to problem. Major characters more fully developed than minor ones.
Story Conversation	Conversation among characters haphazard, incomplete, or muddled. Much of the conversation inappropriate to circumstances and to personality of story characters. Conversation seems unrelated to story being told.	Conversation sometimes appropriate to circumstances and to characters. Conversation may reveal personality of character or relationships among characters. Conversation sometimes not clearly related to story.	Conversation appropriate to story circumstances and to personality of each character. Conversation used to reveal character and develop interrelationships among characters. Conversation clearly relates to story.
Story Idea	Story idea is trite or otherwise uninteresting. Story lacks plot, or plot is vague. Story ends abruptly, or reaches no definite conclusion.	Story idea is interesting. Idea may lack freshness or imaginativeness. Story has a plot. Plot may not be well-developed or entirely consistent. Story endings may not be satisfying or interesting.	Story idea is fresh or imaginative. Plot is well-developed, consistent, and comes to a satisfying, surprising, or otherwise highly effective ending.

Reprinted with permission from Cramer, R.A. (1982). "Informal Approaches to Evaluating Children's Writing," in *Approaches to the Informal Evaluation of Reading*, Eds. J.J. Pikulski, and T. Shannahan. (International Reading Association: Newark, Delaware, 1982).

Standards for Evaluating Composing Skills for Expository Writing

	Low	Middle	High
Quality of Ideas	Most ideas vague, incoherent, inaccurate, underdeveloped, or incomplete. Details often unrelated to topic. Nothing imaginative or thoughtful about the idea.	Unevenness in completeness and development of ideas. Most ideas related to the topic; a few unrelated. Sound, but unimaginative ideas.	Ideas relevant to the topic, fully developed, rich in thought and imagination, and clearly presented.
Quality of Organization	Introduction, development, and conclusion unclear. Emphasis of major and minor points indistinguishable. Sentences and paragraphs seldom related by transitions. Overall lack of coherence and forward movement.	Introduction, development, or conclusion not easily identified. Emphasis on major or minor points sometimes not well-balanced. Transitions between sentences and paragraphs used, but without consistency. Forward movement variable.	Introduction, development, and conclusion well-structured, complete, and easily identified. Emphasis of major and minor points well-balanced. Sentences and paragraphs clearly related by transitions. Logical forward movement.
Selection of Words	Word selection inexact, immature, limited. Figurative language seldom used.	Word selection usually suitable and accurate. Over-used words and cliches somewhat common. Figurative language may lack freshness, when used.	Facility and flair in word selection. Writer experiments with words in unusual and pleasing ways. Figurative language used often in interesting and imaginative ways.
Structure of Sentences	No variety in sentence structure; often only simple sentences are used. Transitions limited to such words as "then"; conjunctions at end. Awkward and puzzling sentences and fragments often appear.	Some variety in sentence length and structure. Transition used when necessary. Few sentence constructions awkward and puzzling. Run-on sentences and sentence fragments appear, but do not predominate.	Sentence length and structure varied. Sentences consistently well-formed. Smooth flow from sentence to sentence. Run-on sentences and sentence fragments rarely appear.
Structure of Paragraph	Topic sentences seldom used. Irrelevancies common. Order of details haphazard. Little or no command of the four common paragraph types.	Topic sentence usually stated. Irrelevancies uncommon. Order of details usually suitable. Limited ability to use the four common types of paragraphs.	Topic sentence usually stated and supported with relevant details. Appropriate variety used in ordering details (chronological, logical, spatial, climactic). Four types of paragraphs used when appropriate (narrative, explanatory, descriptive, persuasive).

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Once the formal and informal assessments have been completed, it is helpful to construct an overview of the student's writing abilities and weaknesses. A survey form which provides a visual summary of the student's strengths and weaknesses is useful. An example of such a form follows:

Written Language Survey — Summary of Information

(adapted from Zigmond, Vallecosa, and Silverman, 1983)

Generation of Ideas	Types of Error	Good	Needs Development	Conventions of Print	Types of Error	Good	Needs Development
Vocabulary				Punctuation			
Productivity				Capitalization			
Story theme/organization				Sentence Structure			
Grammar				Word Usage			
Handwriting				Spelling			
				Hearing Sounds in Words			
				Sounds/Symbols Correspondence			
				Irregular Spellings and Letter Sequences			
				Morphological Rules			

On the basis of the summarized data, the teacher could then plan for instructional interventions, including a method for the continued monitoring of the student's progress (see also Part 10 of this chapter).

Intervention — Written Expression

It is evident from the literature on written expression that there is no one particular approach to intervention which is adequate to meet the needs of learning disabled students. Dagenais and Beadle (1984) have suggested some key points to consider on intervention among which are:

1. Without adequate attention to the student's motivation, no intervention program will be effective.
2. Verbal interaction is considered crucial to stimulate, develop, and refine written language skill. Verbal interaction between the teacher and the student, and between the student and his or her peers, helps to clarify the student's ideas and hence to write better.
3. Guided practice is important, but students learn specific techniques best as they need them, not as the curriculum or teaching schedule dictates.
4. Students appear to progress best if instruction moves from comprehension to expression slowly and systematically.
5. It is important to separate out demands which are counterproductive to the instructional goal (e.g., do not deduct marks for spelling when the goal is to develop organizational skills).

The research evidence clearly suggests that a student's motivation and attitudes towards writing are crucial and should be given first priority (Alley and Deshler, 1979; Dagenais and Beadle, 1984). Handwriting, which might be the least important aspect of writing, is often the main focus of intervention as teachers often react negatively to written work which is messy and difficult to understand. In a study of learning disabilities classrooms, it was found that students spent an average of about 25

minutes of a 270 minute day in written activities but 75% of this time or 18 minutes per day was spent on copying. Thus they had little opportunity for expressing themselves in their own words.

Time must be devoted to giving learning disabled children guided opportunities for written expression.

General Guidelines

Walmsley (1984) has presented an excellent overview of the problems inherent in the traditional approaches to teaching writing to learning disabled students, and proposes a number of alternatives to written language remediation. Some of these are:

1. Identify Relevant Writing Demands

Teachers should analyze the kinds of written tasks that student may be required to know. This includes encouragement of personal writing tasks such as keeping a diary, personal letters, and poetry; academic writing tasks such as note-taking, essays, and business letters, and workplace writing tasks such as job applications, health forms, and correspondence.

2. Assess Student's Response to Writing Demands

Several samples of student writing across subject areas should be analyzed not for errors in transcription, but rather in terms of how well the student was able to meet compositional demands.

3. Teach Writing Along with Reading

Walmsley (1984) emphasizes that writing should not be viewed as an area to be taught after a number of prerequisites have been achieved. Exposure to and practice in composition and transcription is a necessary condition for the development of writing proficiency.

4. Transcription is Subordinate to Composition

Here again transcription is not to be regarded as a necessary and separate requisite to writing. Rather, transcription should be considered to be an integral component of composition, and therefore always dealt with in the compositional context.

5. Attitude and Motivation

These are crucial to performance in written expression, thus the teacher might best start with instructional activities which build a positive attitude towards writing. (Alley and Deshler, 1979).

6. Skills taught must be applied throughout all subject areas.

This can be done easily by using maps, charts, etc. from science, social studies, and mathematics as vehicles for instructional emphasis in handwriting skills. Vocabulary taken from other content areas are ideal to use in the teaching of specific skills in handwriting. (Walmsley, 1984, page 42.)

Activities for Developing Written Expression

Language Experience

Content is extremely important for learning disabled students who have difficulty in written expression. Topics which are meaningful and interesting to the student will motivate him or her to perceive and practice writing. Initially, it is the role of the teacher to generate these ideas; however, as written expression techniques are developed the student should be encouraged to create his or her own topics.

The following are topics for teachers with learning disabled students, which have been adopted from Mandell and Gold (1984); Otto, McMenemy and Smith (1973); and Alley and Deshler (1979).

- Print a complete story on file cards (one card per sentence) and have the student reorganize the sentences to make the story.
- Provide the student with a story without a conclusion. Have the student write a two or three sentence conclusion.
- Give a few introductory sentences and have the student complete the story.
- Give a title and have the student write a story on it.

- Give a stimulus, such as a picture or a poem, and have the student write a story.
- After attending a field trip, have the student write a story.
- Write television commercials or plays about subjects which are meaningful to the student.

Vocabulary

It should be noted that attempts to increase a student's written vocabulary can only be facilitated by simultaneous development of his or her oral vocabulary (see Part 5 of this chapter on oral expression for more information). Teachers have created a number of activities which deal specifically with vocabulary building.

- Set up a "Word Well". Each week have the student draw out a new word which he or she must learn to spell, define, and use appropriately throughout the week.
- Given words already in a student's vocabulary, develop a number of synonyms for each word.
- Provide the student with sentences which have blanks instead of adjectives. Have the student choose the adjective most appropriate for the particular sentence.
- Encourage the student to go on word hunts, such as writing down new words from signs.
- Use dictionary drills as class activities.

Capitalization

Capitalization is often a problem for students with writing problems. The following activities, which allow the student to practise using capitals, have been adapted from Mandell and Gold (1984):

- Provide the student with a number of non-capitalized sentences. Following each sentence state the number of capitals which are needed to correct it. Have the child capitalize each sentence.
- Have each student write a number of non-capitalized sentences and exchange them with a friend. After the students capitalize the sentences, return them to the original writers for correction.

Punctuation

The following are a number of activities to teach students to use punctuation correctly:

- a. Have the student read aloud his or her own sentences. Each time the child pauses, explore the possibility of punctuating that part of the sentence.
- b. Have the student write sentences from dictation while listening for changes in intonation. Match these intonation changes with the correct form of punctuation.
- c. Set up punctuation puzzles, such as sentences with boxes where punctuation marks belong. Have the child fill each box with the appropriate form of punctuation.

[The above activities have been adapted from Mandell and Gold (1984); Hammill, Bartel, and Bunch (1984); and Alley and Deshler (1979).]

Written Syntax

Increasing both sentence length and complexity are important factors in developing written expression. The following activities have been adapted from ideas by Hammill, Bartel, and Bunch (1984); and Mandell and Gold (1984):

- a. Have the child build sentences from lists of words provided by the teacher.
- b. Give a list of words and have the student build meaningful phrases by adding adverbs and adjectives. Using this new list of phrases build sentences.
- c. Build sentences by combining a number of short sentences.
- d. Encourage students to use questions such as who? what? where? when? and why? to develop their own sentences.

Paragraph Organization

Paragraph organization refers to the three parts of a paragraph: the topic sentence, body, and concluding sentence. The following activities help to teach children to order related sentences into paragraphs:

- a. Have the students sort sentences into topic categories.
- b. Have the students draw flow charts to describe the stages of an activity such as baking cookies. Use the flow chart as an outline to write a paragraph explaining how to bake cookies.
- c. Provide the students with paragraphs which contain an inappropriate sentence. Have the students circle the sentences which do not belong.

[These activities have been adapted from Otto, McMenemy, and Smith (1973); Hammill, Bartel, and Bunch (1984); Mandell and Gold (1984); and Alley and Deshler (1979).]

Outlines

Outlines are used as organizational tools in the preparation of essays. By developing a comprehensive outline students can ensure that their papers will follow a logical and sequential progression. The following activities for developing an outline may prove useful:

- a. Provide a written list of main topics, subtopics, and details. Beneath these items, structure the outline so that students are cued to the number of main topics, subtopics, and details included. Initially the main ideas may be identified for the students as a clue to organization. Students must then fill in the outline (Mandell and Gold, 1984, page 326).
- b. Teachers should demonstrate to the class how to make a skeletal outline, taking major section titles of a chapter as main points, picking out paragraph headings and topic sentences as secondary points, and so on, throughout the chapter. [It is a serious mistake to assume that learning disabled students have these skills, or that merely telling them how to outline is enough. (Alley and Deshler, 1979).]

- c. In the early stages of outlining, learning disabled students should practice topical outlining, noting only the general headings of what they read. When the structure is accurately recorded, they can develop full-sentence outlines, using the topics only for the listing of supportive details (Alley and Deshler, 1979).
- d. Structural relationships between the facts can be demonstrated by drawing parallel columns on the board, one for main ideas or generalizations, the other for details and supporting facts. Arrows can be drawn from one column to the other to emphasize relationships (Alley and Deshler, 1979).
- e. The SQ3R procedures, (although it is a reading comprehension technique) can be used as a writing skill by having students mentally go through the steps, and put their ideas down on paper (Alley and Deshler, 1979). The types of skills used in SQ3R are prerequisites for note-taking and summarizing. (See Reading section for SQ3R description.)

One particular approach to teaching composition to learning disabled students which has been recommended by a number of experts (e.g., Smith, 1983; Alley and Deshler, 1979) is that developed by Kerrigan (1974). The approach involves the teaching of six basic steps.

Step 1: This involves writing a short, simple, declarative sentence that makes one statement. It should be a sentence about an idea and not a description. The sentence should be open-ended to allow the students to add to it. Alley and Deshler (1979) emphasize that though this process seems very simple, it is highly advantageous to learning disabled students because they gain confidence and skill by building their composition in steps.

Step 2: This step requires asking the students to write three sentences that are clearly and directly about the whole of the first sentence, not just something in it. To do this the students should ask themselves questions about their first sentence and relate the three sentences to the topic sentence.

Step 3: Following from the above, the students are now asked to write four or five sentences that clearly relate to each of the three sentences in Step 2. The students will then have four or five sentences that directly relate to sentences one, two, and three.

Step 4: Here further writing tasks involve making the material in the four or five sentences in Step 3 as concrete and specific as possible. Go into detail. Give examples. The sentences in Step 4 should also contain details; students should try to expand and elaborate words and phrases in the sentences. Abstract words are to be defined. As Alley and Deshler (1979) indicate, this is an excellent opportunity for learning disabled students to expand their vocabulary and writing skills.

Step 5: Here the students are asked to tie things together. Students are asked to write in the first sentence of the second paragraph, and in every paragraph following, a clear reference to the idea in the preceding paragraph. This teaches students to relate paragraphs to one another just as they were relating sentences.

Step 6: This final task requires students to make sure that every sentence in their theme is connected with, and makes clear reference to, the preceding sentence. A few methods for carrying an idea from one sentence to the next are:

- repeat in sentence two a word used in sentence one;
- use in sentence two a synonym of a word in sentence one;
- use a pronoun in sentence two to refer to an antecedent in sentence one.

Proofreading

Proofreading assists children to produce better quality written work. Students who have written expression difficulties require extra practice in developing this skill. The following activities have been adapted from the ideas of Otto, McMenemy, and Smith (1973); Dagenais and Beadle (1984); Mandell and Gold (1984); and Alley and Deshler (1979).

- a. Have children record their written work on a tape-recorder and play it back as a method of proofreading.
- b. Have children proofread their classmates' work.
- c. One approach which has been found to be effective for the teaching of proofreading or "error monitoring" (particularly for adolescents) has been developed by Alley and Deshler (1979). The adapted instructional procedure involves an 11-step process (Schumaker, Deshler, Nolan, Clark, Alley, and Warner, 1981). The following describes each of the steps involved:

Step 1: *Test to Determine the Student's Current Monitoring Skills*

In this step, the teacher tests the student's monitoring skills, first with ability level and grade material written by the teacher, and then with a passage written by the student. After the testing is completed, the teacher discusses the results with the student and shows the student where and why he or she missed errors in the text.

Step 2: *Describe the Error Monitoring Strategy*

Next, the teacher describes to the student the steps involved in the Error Monitoring Strategy and contrasts them with the student's current checking habits. The steps should include which checking habits the student should engage and when they should be followed. At each step, the teacher explains why and how it will help the student.

Step 3: *Model the Strategy*

In this step, the teacher shows how the Error Monitoring Strategy works. Thus, the teacher demonstrates the strategy by acting-out each of the steps while "thinking aloud".

Step 4: *Verbal Rehearsal of the Strategy*

Here, the student verbally rehearses the steps involved in the Error Monitoring Strategy until he or she completes it correctly without prompting. This instructional step is designed to familiarize the student with the steps of the strategy so that he or she can recall it when needed.

Step 5: *Practice at the Student's Ability-Level, with Materials Written by the Teacher*

In this step, the student practices applying the strategy to successive passages written at his or her current reading level. This reduces the demands on the student such that he or she can concentrate on the application of the new strategy. As the student becomes proficient in proofreading, he or she is to be encouraged to make proofreading as natural and automatic as possible.

Step 6: *Feedback*

The teacher gives the student positive and corrective feedback after he or she completes proofreading each passage. When the student is able to detect and correct 90% of the errors in a given passage, the student is to go on to Step 7.

Step 7: *Testing with Writing by the Teacher*

Here the student receives two tests written by the teacher, one at the student's ability level and one at grade level. These measure each student's progress in learning the strategy. If the student performs well on the ability level test but not on the grade level test, Steps 5 and 6 are to be repeated using grade level materials. If the student performs well on both tests, the student progresses to Step 8.

Step 8: *Individual Analysis of Common Errors*

For this step, the teacher analyzes with the student the types of errors the student commonly makes in his or her own written work, using the student's most recent work. The result is a list of the kinds of errors the student should look for. This list is secured in the student's notebook.

Step 9: *Practice with Student Paragraphs*

The student is instructed to write a paragraph and to apply the proofreading strategy to that paragraph.

Step 10: *Feedback*

Each time the student finishes a new paragraph the teacher should give positive feedback about his or her use of the strategy. Steps 9 and 10 are repeated until the student makes less than one error for every 20 words.

Step 11: *Testing with Paragraphs by the Student*

The student is asked to write and proofread a paragraph as a final test of monitoring skills.

Many of the current leaders in this area are stressing both pre- and post-writing activities as necessary to a holistic writing program (Graves, 1982; Walmsley, 1984; Mayher, Onore, Lester, Caret, and Lefelt, 1983). For example, Mayher et al. (1983) refer to the composing process as consisting of the following pre- and post-writing events.

1. **Percolating** - discussions, mapping, brainstorming, listing, free (focused) writing, films, reading, drawing.
2. **Drafting** - expressive writing, learning logs, journals.
3. **Revising** - speculative drafts, peer response, teacher written comments, conferencing.
4. **Editing** - editorial board, editing pairs, focused editing.
5. **Publication** - reading aloud to peers, bulletin boards, class/school newspapers or magazines, younger or older children, etc.

As a final composition and instruction resource for teachers, the following summary chart (source unknown) gives an excellent overview of the major aspects of the writing process and provides examples of related activities.



Summary Chart: Writing Process

1. Establishing the Context	2. Focusing on the Writing Task	3. Composing and Writing the First Draft	4. Editing and Proofreading	5. Responding and Celebrating
a. Focusing prior knowledge	Forming intention.	Making initial selection of ideas, sentences.	Reading for clarity and cohesion.	Information sharing of written work in class.
b. Building background through listening to tapes and music, reading, discussing, experiencing, brainstorming, games, role playing, viewing pictures, video-tapes, films, etc., interviewing, semantic mapping, and others.	Making decisions regarding form, audience, purpose of the writing, etc., in keeping with the writer's intention.	Incorporating ideas or information that may emerge.	Sharing of responses both affective and constructive.	Presenting written work personally to another student, the class, other classes, and/or adults.
c.	Gathering ideas regarding tentative content, vocabulary order. Relationships among ideas, etc., and through brainstorming, jotting down words and ideas, questioning, talking in small groups, note taking, reading models, storyboarding, webbing, listing words, rafting, and others.	Consulting as necessary with teachers or other students.	Making decisions about reordering, deleting, or adding ideas or events.	Publishing work for a wider audience. Reconstructing in another medium through reading aloud, displaying in classroom and other areas of school, publishing in newspapers, newsletters, anthologies; readers, theatre, creating murals, mobiles, dioramas, posters, etc., choral speaking, dramatizing, puppet plays, media presentation, such as taping with sound effects and music, and others.
d.		Continuous editing and note making.	Proofreading for mechanics, spelling, grammar, usage, and punctuation, through reading aloud, listening to one's written work read aloud by others, taping, sharing in groups, conferencing with teacher, editing in groups, proofreading at stations or individually, and others.	

Use of Technology

Hearing disabled students can learn to use a word processor effectively. Word processing programs such as the Bank Street Writer are 'user friendly', offering the student independence in its use. A word processor can:

1. Aid a student with handwriting difficulties.
2. Encourage revisions and editing implicitly, as the program itself suggests a 'rough draft' prior to the 'final draft'. Drafts are no longer equated with failure, but become an integral part of writing.
3. Facilitate ease of revision and editing, as changes can be made so much more easily than through re-writing.
4. Facilitate use of motivational and independent techniques such as peer editing.
5. Increase acceptability of and students' pride in written work, as the finished project is neat and legible.
6. Provide the student with more control over his or her own writing.
7. Help students with spelling difficulties by
 - a. identifying errors and suggesting alternatives and
 - b. increasing independence in proofreading written work.

A tape recorder is useful for a first draft with students who have difficulty putting their ideas on paper. In some cases, a complete assignment might be taped. This could be transcribed by the student, a peer, a parent, or a teacher. However, students should be trained in how to use a tape recorder if it is to be used for essay-type assignments. An outline of the essay or report should be on paper first, and the student should work from this plan.

Career Development Skills

1. Have students write a letter to a company to request information for class use.
2. Teach the students the abbreviations used in classified newspaper advertisements.
3. Have the students write classified newspaper advertisements.

4. Have the students complete job and other application forms.
5. Have the students write personal resumes.
6. Teach the students to write bank cheques.

Additional career development activities are contained in the Alberta Education Health Program, Career Development Services for Alberta Students; "A Career is What I Do" and the "Ask Me How Series" — all published by Alberta Education.

Parental Involvement

Students who have problems with written expression definitely benefit from encouragement at home. Parents can encourage the development of writing skills in ways which their children find meaningful and fun. Home reinforcement activities should be different and shorter than assignments completed at school. The following activities have been adapted from the ideas of Mandell and Gold (1984):

- a. Have the student write party invitations and thank you cards.
- b. Encourage the student to write letters and postcards to friends and family.
- c. Have the student write shopping, guest, and Christmas lists.
- d. Encourage the student to write messages whenever he or she leaves the house.
- e. Have the student plan menus.
- f. Encourage the student to keep a diary and to make a family scrapbook.
- g. Have the student write down all telephone messages.

Summary

The following summary points are based on Glatthorn (1982). In addition, use of the language experience approach to teach written expression is suggested.

1. **Encourage and provide time for “free writing”.** Have the students write in their journals, without any concern for form or correctness. Show them how to use their free writing as a basis for more structured work.
2. **Offer them a comprehensive writing program.** Have them write poems, stories, and plays. Show them how to fill out forms and write business letters. Encourage them to write about the literature they study and the books they read. Have them write essays that explain and essays that persuade. Teach them how to answer essay questions and write reports for other school subjects.
3. Whenever possible, **give them a choice of topic.** Help them discover what they know, what they believe, and what they feel.
4. **Make the writing seem consequential by having them write about real problems for real audiences.** Find ways for them to share their writing so that it all seems worthwhile, and not a meaningless game. Have them write for each other, for younger students, for their parents, for school administrators, and for the community.
5. **Teach them how to explore a plan.** Take class time to demonstrate and have them use a variety of exploring activities: brainstorming, role-playing, listing, reading, discussing, and free writing. Show them a variety of planning approaches and teach them some commonly used plans.
6. **In their more structured writing, teach them the thinking and writing skills they need to know.** Do a task or trait analysis of the writing you expect. Suppose, for example, that you want a class of sixth graders to write some clear directions. You know that one important trait of clear directions is specificity: distances and routes that are clear and exact. So you take time to teach them the skill of giving specific distances and obvious roadmarks.
7. **Take class time to let them share their work with each other.** Explain the difference between the two roles they can play: audience and editor. An audience listens appreciatively. An editor suggests corrections. Teach them how to respond as an audience and how to edit each other's work.
8. **When students submit their writing to you, remember that you are not an editor.** Resist the temptation to correct their work. Find something positive to say about each paper, and call attention to major problems.
9. **If they submit work that has been done very carelessly, refuse to accept it.** If they submit work containing major problems, expect them to revise it. Give them feedback throughout the whole process so that they get the idea that your job is to help them write better, and not just to give them a grade.

From the early years on, it is most important to focus on the development of all the aspects of writing, including handwriting and other components of written expression. The above activities are not intended to be exhaustive. The teacher is encouraged to consult the more detailed information listed in the **TEACHER RESOURCES**.

Chapter IV

Part 4

Oral Language

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Chapter IV: Part 4

Oral Language

Objectives

The purpose of this section is to:

1. note characteristics of a student experiencing difficulty in developing oral expression,
2. provide some suggestions for intervention for the young learning disabled child and the adolescent,
3. provide the teacher with techniques to develop listening skills in the learning disabled student,
4. provide examples of formal and informal measuring devices to assist the development of oral expression,
5. provide the teacher with samples of assessment and intervention resources.

Introduction

A considerable body of research is now available indicating that many learning disabled students differ significantly from their peers in their ability to use oral language effectively. In the past, emphasis has been placed on the students' ability to speak orally, it is now recognized that the students' ability to express their ideas is equally important.

Definitions

For the purposes of this chapter, it is necessary to provide definitions of a few linguistic terms and disciplines:

Phonology A phoneme is a unit of sound. The English language contains approximately 45 phonemes. Phonology is the study of sound units in a given language.

Morphology A morpheme is the smallest unit of language that conveys meaning. Examples would include prefixes and suffixes. Morphology is the study of the form of words and the rules that guide their use.

Syntax Syntax or grammar refers to how words can be joined together to make sentences.

Semantics This dimension involves word meaning. Semantic proficiency requires an understanding of word categories, word category inter-relationships, multiple word meanings, and figurative language.

The language problems of learning disabled students commonly fall under these areas. The following provides some examples of problems experienced by learning disabled students in the areas of phonology, morphology, syntax, and semantics (adapted from Mandell and Fiscus, 1980).

Sample Behaviors of Learning Disabled Students in Oral Language

Phonology Poor discrimination of sound patterns, including the pitch, rhythm, and/or melody of sound patterns, which results in faulty understanding and

expression. Example: The teacher might ask a student, "Read the second paragraph on page ten." The student with a severe discrimination problem may receive a message that is garbled, like a poor long distance phone call; or since the student cannot discriminate some sounds from others, he or she may receive no message at all. As a result, this student responds inappropriately or not at all.

Morphology

Inability to associate meaning with phonemes: root words, plurals, suffixes, prefixes, etc. Example: knows meaning of the word cite but has difficulty with excite, recite.

Syntax

Inability to process, store, and organize information in order to express oneself in the accepted grammatical code. Results in faulty word order, jargon, frequent pauses, etc. Example: "They not here." In this case, a form of the verb "to be" is omitted. "Now to store go," illustrates incorrect word order.

Semantics

Inability to comprehend isolated word meanings and poor understanding of word combinations. Results in poor comprehension of words, phrases, sentences, etc. Example: "There's a fork in the road" might be interpreted as "There's an eating utensil in the road." This faulty word meaning arises from the inability to use contextual meaning.

Research in the 70s has stressed the importance of the interaction of language and cognitive development, and of language and social/personal relationships: an interactive view of language arts in the schools is a necessity. Recent reviews concerning pragmatics and learning disabled students (Mercer, 1983; Bryan, Pearl, Donahue, Bryan, and Pflamm, 1983)

reveal that this group has particular difficulty using language functionally. The work of Bryan and her associates at the Chicago Institute for Learning Disabilities has been instrumental in identifying many of the communication problems that characterize the learning disabled child. Some of the major findings are:

Oral Communication Difficulties of the Learning Disabled

1. Learning disabled students do not vary their communicative style from audience to audience (i.e., adjust language complexity for younger children) or in response to context (i.e., using tact to deliver bad news).
2. Learning disabled students do not use questions effectively. They tend to ask questions that can be answered with one or two word responses, which tends to stifle conversation. They also do not tend to ask questions which clarify unclear messages.
3. Learning disabled students have a tendency to adopt a passive communication style and are likely to blame themselves for communication problems with adults.
4. In group situations, learning disabled students are typically more passive no matter what the age level. In comparison with their peers they are more eager to agree with others, less able to persuade others to agree with them, and have difficulty keeping a group at a task.

These and other recent studies have consistently demonstrated that the learning disabled student has difficulty in expressing and understanding oral communication. As noted by Mercer (1983), there are many questions that need to be examined before we have a complete understanding of the underlying factors involved in communicative incompetence. Some hypotheses suggest that specific deficits in language structure are responsible: i.e., a lack of social knowledge, or a lack of confidence. Nevertheless, it is important for

the teacher to recognize that the learning disabled student is likely to have difficulties in this area and to begin to explore some of the recent developments for instructional intervention of these problems. Finally, it should be noted that whereas the traditional linguistic approaches to language difficulties required specialized training and expertise (speech and language pathology) which often limited the role of the teacher, the present emphasis on the pragmatic, functional, and oral language abilities of the learning disabled student places the teacher in the foremost position for direct instructional intervention.

Reasons for Developing Oral Language

- 1.It may influence the social perception of the learning disabled.
- 2.It allows for more effective communication between the teacher and the student, and the student and his or her peers.

- 3.Oral expressive language is an integrated part of the written expression and reading programs.
- 4.It is an important skill for success outside of school.

Difficulties Learning Disabled Children Have with Oral Expression

- 1.Difficulty with word retrieval (slow response time, uses fillers such as ‘umm’, etc.).
- 2.Inadequate comprehension of vocabulary.
- 3.Difficulty with the use of morphological rules (use of past tense, etc.).
- 4.Difficulty with the use of syntactic-semantic structures.
- 5.Difficulty with conversational interaction (see also section on Social Skills).
- 6.Difficulty in adjusting their conversation to the people they are speaking with, to what was said, or to topic, etc.

Assessing Levels of Performance

Formal Assessment of Oral Language

There are a number of recent standardized tests that teachers may use to assess a student’s oral expression strengths and weaknesses. The following tests are some of the common ones available:

Tests	Characteristics
Test of Adolescent Language (Hammill, Brown, Larsen, and Wiederholt, 1980)	Ages 11 to 18 1/2 years (Previously described in the Written Expression section.)
Test of Language Development (Newcomer and Hammill, 1982)	Ages 4 to 13 years Purpose: This test is geared toward the assessment of children’s spoken language. It has a primary and intermediate edition which examines phonological, morphological, syntactical, and semantic development.
Clinical Evaluation of Language Functions: Diagnostic Battery (Semel and Wigg, 1980)	Grades ECS to 12 Purpose: This is an individually administered norm-referenced and criterion-referenced test of receptive and expressive language abilities: phonology, morphology, syntax, and semantics are examined through 13 subtests.
Brigance: Diagnostic Inventory of Early Development (Brigance, 1979)	Ages birth to 7 years Purpose: This inventory provides a criterion-referenced assessment for a variety of oral language skills across age levels.

(cont’d)

Tests	Characteristics
Brigance: Diagnostic Inventory of Early Development (continued)	<p><i>Pre-Speech:</i></p> <ol style="list-style-type: none"> 1. Receptive Language 2. Vocalization <p><i>Speech and Language Skills:</i></p> <ol style="list-style-type: none"> 1. Syntax 2. Length of Sentences 3. Personal Rate Response 4. Social Speech 5. Verbal Direction 6. Picture Vocabulary 7. Articulation of Sounds 8. Repeats Numbers 9. Sentence Memory 10. Singing
Brigance Diagnostic Inventory of Basic Skills (1977)	<p><i>Readiness</i></p> <ol style="list-style-type: none"> 1. Verbal Fluency 2. Verbal Directions 3. Articulation of Sounds 4. Personal Data Response 5. Sentence Memory 6. Counting 7. Alphabet
Brigance Diagnostic Inventory of Essential Skills (1980)	<p><i>Communication and Telephone Skills</i></p> <ol style="list-style-type: none"> 1. Practical Communication Skills 2. Communication Skills Rating Scale 3. Uses Telephone
Multilevel Informal Language Inventory (Goldsworthy, 1982)	<p>Grades Pre-school to 7</p> <p>Purpose: Provides an overview of syntax and semantic development through use of a testing picture probe format. For each item three levels of assessment are possible:</p> <ol style="list-style-type: none"> 1. evoked spontaneous level 2. direct imitation procedures 3. receptive level <p>A profile of scores can be determined.</p>
Northwestern Syntax Screening Test (Lee, 1971)	<p>Ages 3 years, 11 months to 9 years, 11 months</p> <p>Purpose: This instrument was developed to assess both perceptive and expressive ability: the examiner gives a spoken sentence and the child chooses an appropriate response from a selection of pictures.</p>
The Token Test for Children (DiSimoni, functional 1978)	<p>Ages 3 years to 12 years 6 months</p> <p>Purpose: This is a quick assessment of the student's listening ability and may be used to identify receptive language dysfunction in children.</p>
Assessment of Childrens' Language Comprehension (Foster, Gidden, and Stack, 1973)	<p>Ages 2 to 12 years</p> <p>Purpose: This individually administered test measures children's receptive abilities in semantic core vocabulary development and in comprehension of lexical items.</p>
"Let's Talk" Inventory of Functional Communication Skills (Wigg, 1982)	<p>Grades 4 to 12</p> <p>Purpose: This instrument assesses the individual's pragmatic abilities for oral expression with some back-up items on reception. The inventory includes 40 items assembled in a picture manual.</p>

The above are available to measure the general ability of students in the area of oral expression. A variety of informal assessment devices are also available.

Informal Assessment

Previous chapters have pointed out that information obtained through informal assessment can be helpful to the teacher: this is also true in this area. As before, the teacher can use a checklist to structure observations of the student's expressive language.

The following is an adapted list of student characteristics taken from Hargrave and

Poteet (1980) and Guerin and Maier (1982), which can be used by teachers, parents, or others. The teacher should record the specific conditions (situations) under which the behavior was noted and describe what the individual said as well as the particular manner in which it was said. Difficulties and strengths could then be noted and thus lead directly to more specific assessment and intervention.

**Student Characteristics of Oral Expression to Observe:
A Sample Expressive Language Checklist**

Each question needs to be answered with a Yes, Sometimes, No, or Not Observed.

1. Does the student:

- speak in single word statements only

- speak in phrases only
2. Does the student use parts of speech incorrectly:

- nouns

- verbs

- adjectives

- prepositions

- pronouns

- plurals
3. Does the student show differences from other students in:

- volume

- pitch and/or voice quality

- intonation — uses inflection or expression

- word order

- vocabulary

- pronunciation

- grammar
4. Does the student:

- pause when speaking

- stutter or repeat words

- clench hands, roll eyes, or show body tension when speaking

- substitute sounds for others

- distort some sounds

- omit some sounds

- initiate sounds correctly

- speak excessively

- speak infrequently

- use gestures to substitute for words

- relate ideas in sequence

- follow visual social conventions when speaking, e.g., appropriate greetings and manners

- make self understood by other students, e.g., is word finding frequent or prolonged in general conversation

(cont'd)

4. (continued)

- contribute to class discussions with on-task comments _____
 - contribute to class discussions with off-task comments _____
 - appear to understand what he/she hears with difficulty _____
 - describe personal experiences or tell short stories _____
 - tell long stories _____
 - ask appropriately for information, e.g., help from teacher, student, or general public _____
 - tell reasons appropriately, e.g., why he or she was late or why he or she wants to do a particular activity _____
 - express positive and negative feelings adequately _____
 - recall names for objects, pictures, or people easily _____
 - adjust language to social group, e.g., speaks simply to a younger child, uses current slang when speaking with peers or uses more formal and polite language with adults or authority figures _____
 - give directions clearly and accurately _____
 - use a variety of words in conversation _____
 - use oral language to influence _____
 - use non-verbal cues to communicate, e.g., facial expression and body gestures to accent conversation or replace certain words _____
-

Language Sampling

A rich source of data to determine the instructional needs of the student is the teacher-student interview. The teacher should tape record the interview and questions should be posed in such a way as to elicit more than just "yes", "no", or other one-word responses.

The teacher can develop an analysis system on his or her own, or might better rely on one of the systems for analysis of language samples:

Lee, L. *Developmental Sentence Analysis*. Evanston, IL: Northwestern University Press, 1974.

Lee, L., and Carter, S. "Developmental Sentence Scoring: A Clinical Procedure for Estimating Syntactic Development in Children's Spontaneous Speech." *Speech and Hearing Disorders*, 1971, 36, pp. 315-341.

Tyack, D., and Gottsleben, R. *Language Sampling, Analysis and Training: A Handbook for Teachers and Clinicians*. Palo Alto, Ca.: Consulting Psychologists Press, 1974.

The data obtained from both formal and informal assessment procedures should be summarized to provide a total view of the student's strengths and weaknesses in oral language. Once this information is compiled the teacher can compare it with the student's performance in other language arts areas, such as reading and writing. On the following page is a sample of a summary profile sheet for oral language.

By following this profile the teacher can plan instructional goals and procedures, and monitor the student's progress. A thorough analysis of the profile should clearly establish instructional needs for expressive language development, and specific needs pertaining to syntax, morphology, semantics, and particularly pragmatics of oral communication.



Summary Profile Sheet for Oral Language

	Date	Assessment Instrument	Needs Identified
1. Content <ul style="list-style-type: none">- Receptive vocabulary- Expressive vocabulary 2. Form <ul style="list-style-type: none">- Phonology- Morphology- Syntax- Classroom performance 3. Use <ul style="list-style-type: none">- Pragmatics- Classroom performance 4. Integration of Content, Form and Use <ul style="list-style-type: none">- Formal assessment- Classroom performance			



Intervention

Areas to Include in the Oral Language Instruction of Learning Disabled Students

A student must have meaningful experiences and must develop comprehension in order to have adequate expressive language. In addition to this, Wallace and Kauffman (1978) feel that a student must be able to produce various speech sounds, formulate words and sentences, use correct grammatical and syntactical language patterns, and exhibit an adequate spoken vocabulary.

The acquisition of language skills does not take place at certain times of the day but is an all-day affair. Parents and others can take an active role in language development, but it is the teacher who will probably provide systematic instruction. It is important for the teacher to provide a stimulating and supportive environment. Here are some guidelines for instruction.

1. Use the learning disabled student's natural environment as a foundation for exchange.
2. Emphasize concrete events first, then move to more abstract ideas.
3. Encourage the student to substitute words for habitual gestures and assist in his or her efforts in the transition.
4. Allow the student the freedom to express his or her concerns without over-structuring.
5. Make sure that the student is aware of the teacher's interest in what he or she is saying.



Intervention Techniques

Mandell and Gold (1984) suggest a few instructional techniques that have proven helpful in facilitating language development. These techniques include imitation, expansion, labelling, auditory training, and effective questioning. Role playing and rehearsal could also be added to the list. The following activities also provide some ideas for intervention:

1. Student lacks basic vocal skills.
 - a. Teach the student to imitate sounds or words.
 - b. Teach the student to imitate the visible aspects of sound production through the use of a mirror.
 - c. Teach the student to reproduce sounds heard; use a tape recorder to repeat and check.
 - d. Use choral reading or singing games.
 - e. Teach the student to blend sounds to form words.
2. Student lacks an adequate vocabulary. (See also reading section.)
 - a. Have the student build a list of words from one common root, such as "ball" or "man" (Wallace and Kaufmann, 1978).
 - b. Introduce a word for the day and have the child use it as often as possible.
 - c. Associate words with pictures.
 - d. Label concrete objects.
3. Student does not express ideas spontaneously.
 - a. Provide a clue for the word by giving the beginning sound.
 - b. Use pictures to prompt.
 - c. Label objects, parts of the body, and actions of others.
 - d. Describe surroundings or objects.
4. Student has difficulty using correct grammatical and syntactical forms.
 - a. Use common expressions that are unfamiliar to the student in a variety of situations.
 - b. Point out differences between the desired response and what the student said.
 - c. Have the student repeat what he or she hears; use a tape recorder.
 - d. Have the student rehearse what he or she is going to say.
 - e. Correct grammar and syntax errors by providing correct usage (Wallace and Kauffman, 1978).
 - f. Provide phrases (e.g., "the white house", "to the mountains") and have the child build a sentence using the phrases as the standard syntactical form (Wallace and Kauffman, 1978).
5. Student has difficulty formulating words and sentences.
 - a. Use highly familiar words and phrases.
 - b. Initially, the number of words and phrases should be kept to a minimum.
 - c. Use pictorial representations to highlight phrases or clauses.
 - d. Use the cloze format in which one or several target words are deleted.
 - e. Give the student practice in using articles and prepositions by providing him or her with keywords (e.g., boy, house, dog) and have the child build sentences around these words.
 - f. Show a picture to a student and ask him or her to describe what is happening. The use of questions may draw more information from the child.
6. Student has difficulty in differentiating direct and indirect requests.
 - a. Use role play activities to demonstrate the requests.
 - b. Repeat demonstrations and examples in order to show how indirect requests deviate from common English rules.
7. Student has difficulty initiating and sustaining conversation.
 - a. Role plays: how and when to use communication skills.
 - b. Rehearsal of "conversation starters."
 - c. Use of verbal and non-verbal clues — make the student aware of these.
8. Student has difficulty with verbal fluency and flexibility.
 - a. Student describes objects and pictures in response to direct questions.
 - b. Give descriptions of past experiences spontaneously or through direct questions.
 - c. Verbal elaborations of the details through direct questioning or spontaneous response.

Facilitating Expression

Temple and Gillet (1984) suggest that the younger student initially be given a variety of concrete experiences to talk about, with the teacher providing frequent interactive adult language modeling. For older students, the emphasis should be upon varied language function experiences, formal and informal, with different audiences. Facility with "school functions", the heuristic and

representational, require particular emphasis. Joan Tough (1977, 1979), who has pioneered the application of a functional language approach in the classroom, has developed a comprehensive summary of the strategies important to children's language development. Also important is the directive and modeling components of the teacher's interaction with the student. Tough (1977) has identified a number of strategies a teacher can use in classroom dialogue: orientating, enabling, informing, sustaining, and concluding. [For a complete table description see Alberta Education's Elementary Language Arts Curriculum Guide (page 23) or refer to Toluch (1977, 1979).]

Vocabulary Development

Emphasis should be given to breadth as well as depth of vocabulary. Components of a vocabulary development program might include:

1. Use of context clues;
2. Multiple meaning of words;
3. Synonyms and antonyms;
4. Common Latin and Greek affixes and roots;
5. Dictionary use;
6. Denotation (Standard Usage) and connotation (Idiosyncratic Usage).

Syntactic Development

Students learn appropriate syntactic forms through exposure to correct models and through the opportunity to practice and monitor these forms in new and unfamiliar formats. Temple and Gillet (1984) suggest that the older student, in particular, should be exposed to the elaborate and complex grammatical forms that are found in printed materials for his or her age level. Important also for syntactic development is practice in giving and following directions and sequences.

Social Uses of Language

This area appears to be a particularly critical one for the learning disabled student, and yet its importance has only recently become apparent. As such, there are only a few resources for teachers to draw upon. Wiig (1982) provides information on one approach. The section dealing with social skills provides additional information.

Listening Development

It is important to remember that listening skills should not be taught in isolation. The use of these skills is not confined to language arts but extends across all content areas as well as in the community, with peers, and in the home. Listening is part of communication. While it can be taught as a specific skills, it should be taught in real communication contexts as much as possible. Pearson and Fielding (1982) have recently reviewed the literature concerning listening and conclude that there should be direct attempts made at all school age levels to improve student performance on listening tasks. As the students enter the secondary grades, it is critical that they have the necessary listening skills to carry them successfully through their classes. Several researchers have suggested a number of areas that should be emphasized. These are:

1. Greater awareness and use of story and text structures in listening to fiction and non-fiction.
2. Use of logic and prediction in comprehension activities.
3. Responsive and evaluative listening through note-taking, outlining, sequencing, illustrating, and using story and text structures to remember and retell stories and non-fiction accounts.
4. Listening to many types of stories told and read.
5. Critical listening; e.g., through use of prediction during story reading and storytelling. Teach students to question the intent and logic of a speaker.
6. Preparation for a listening session by reviewing notes from a previous lecture and by reading materials related to today's class.
7. Being physically prepared to listen (e.g., sit near the front of the room and have all materials necessary for the class available).
8. Learning to listen for main and supporting ideas (e.g., deliver a short speech to the students). Have them note gestures, facial expressions, movements, pauses, and so on that signal "This is a main idea". Tell a short story and have students summarize it in one sentence.

9. Listening for organizing cues (e.g., the teacher might say "Our topic will be discussed under three major headings...").

Pearson and Fielding (1982) further note that the accepted belief that instruction in reading comprehension will automatically benefit listening may only be true after students have become mature readers. Thus, the importance of direct attention and instruction in listening, especially at the earlier grade levels, is critically important. Another instructional recommendation that Pearson and Fielding (1982) suggest is to provide opportunities for the student to practice oral reading, with particular emphasis being given to the prosodic (i.e., rhythm, intonation, and stress patterns of language) features of text. Finally, Pearson and Fielding (1982) suggest that teachers read stories aloud to groups of students and have them summarize text segments, monitor for sense, and predict what will happen next.

Many media presentations (films, videos, slide/tape shows) are developed expressly to teach listening and note-taking skills. Regular classroom materials can also be used through the development of study guides and through teaching note-taking techniques. For integrated classes, tape recording lectures can allow students to repeat the lecture until it is understood.

Speaking Skills Training

It is important for teachers to provide students with strategies for responding to questions and to converse appropriately. Alley and Deshler (1979) give some strategies for such training.

1. Wait time. Encourage students to think before they speak. This may cut down on inappropriate comments.
2. Rehearsal. This can involve role playing with feedback from the student's peers or teacher. An initial step for this can include students tape recording their part of the interaction.
3. Interpersonal sensitivity. The teacher helps the learning disabled student to give accurate feedback on the behavior he or she has observed, and to assess how the peer group responded to the student.

4. Surface counselling. The teacher gives the learning disabled student accurate feedback on the behavior he or she has observed and on how the peer group responded to the student.

For adolescent learning disabled students, the focus of the speaking skills training should be on communication acts on "Survival Skills." It is important that students develop the basic skills of appropriately asking for information concerning a job, wages, and work hours. Common rituals such as greetings, giving appropriate personal information (name, address, etc.), or asking someone to repeat information, are all things that students need to know.

Survival Skills

Mandell and Gold (1984) give a variety of social situations where students can practice communication skills. Teacher and student can practice the skills appropriate to the following situations:

- a. How to order from a menu;
- b. How to make formal and informal introductions;
- c. How to use the phone;
- d. How to set up an interview;
- e. How to ask for help while on a job or at school;
- f. How to express properly both positive and negative feelings;
- g. How to give directions and make explanations.

These are only some social skills that we need to survive; the teacher can make use of the strategies suggested by Alley and Deshler (1979), (see Speaking Skills Training above).

Parental Involvement: Home Reinforcement

The involvement of parents in a language development program can help the student. Mandell and Gold (1984) have given a number of suggestions for home activities:

1. Incorporate language instruction into the natural daily activities of the student;
2. Work with the student at his or her level of language development;
3. Be a good model. Talk clearly and slowly, use eye contact, and appropriate intonation and gestures;
4. Use questioning techniques that encourage more than one word answers;
5. Encourage the student to talk of past events and experiences;
6. Do not permit brothers and sisters to speak for the student. (See Chapter V - Parents as Partners - for more information.)

Summary

This section:

1. outlines characteristics of students who experience difficulty in speaking,
2. provides some suggestions for intervention,
3. provides some information on the development of listening skills,
4. provides some examples of formal and informal assessment devices,
5. provides some resources for the teacher.

Chapter IV

Part 5 Spelling

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Chapter IV: Part 5

Spelling

Objectives

The purpose of this section is to:

1. stress the importance of spelling for learning disabled students,
2. note specific spelling difficulties and some common errors of learning disabled students,
3. provide information about spelling assessment and intervention,
4. reinforce the importance of assessing strengths as well as weaknesses,
5. stress the need for integrated assessment and intervention programs,
6. provide a useful reference for all teachers dealing with learning disabled students.

Introduction

The underlying theme of this chapter is that the variables involved in spelling performance are as diverse as the approaches used to teach and remediate spelling. In order to provide learning disabled students with the most appropriate program, teachers should integrate both formal and informal tests, investigate both cognitive and other abilities, and facilitate independent mastery. This chapter stresses the importance of the teacher's role and the students' involvement.

Although this chapter focuses on the assessment of and intervention with learning disabled children at the elementary level, many of the suggestions and recommendations can be adapted for the adolescent student.

One of the most common learning disabilities is associated with spelling. Spelling is a very difficult subject for learning disabled children because of all the skills that are required. The difficulty is further compounded by the complexity of English orthography, which does not have consistent rules. It is also a very difficult subject to teach to learning disabled children because of the variety of problems they experience.

Terms Used in this Section

Linguistics:	the knowledge or study of language
Phoneme:	refers to a unit of significant sound in a language, e.g., the sound of "b" in bat.
Morphology:	the study of the form of words, e.g., uncomfortable is made up of the root word "comfort", the prefix "un", and the suffix "able".
Phonology:	the study of sounds in a language.
Orthography:	refers to the correctness of spelling.
Mnemonic:	pertaining to an aid or a system for improving memory.
Diphthong:	the union of two vowels representing a single sound.
Digraph:	the grouping of two letters representing one sound, e.g., "sh" as in ship.
Consonant Blend:	the union of two or three consonants forming a mixed sound.

Decoding: the analysis of word parts and sounds.

Metacognition: refers to a person's conscious attempts to control his or her remembering and comprehending, often referred to as "thinking about thinking".

Cognitive Behavior Modification: refers to a method of influencing one's behavior (e.g., spelling) through cognitive strategies. It can be viewed as teaching the student how to think.

6. Difficulty associating and recalling sound/symbol correspondence.
7. Difficulty memorizing letters, words, word parts, and rules.
8. Difficulty integrating a visual-motor response to words perceived auditorily.
9. Difficulty pronouncing words they do not know how to spell.
10. Difficulty with decoding skills.
11. Difficulty integrating all the required functions and then writing the spelling words in accordance with the teacher's rate of dictation.

The integrative complexities of cognitive and perceptual motor skills are not the only reason for possible spelling weaknesses.

Importance of Developing Spelling with Learning Disabled Students

1. Spelling influences the effectiveness of communication.
2. Spelling influences other people's perception of the learning disabled student's potential and work habits.
3. Spelling is an extremely important skill in the business, social, and academic worlds.
4. Spelling can affect an individual's educational and occupational status.
5. Poor spelling may negatively affect the student's self-esteem.

Other Sources of Spelling Problems

1. Spelling does not always follow consistent rules.
2. Spelling rules are governed by a knowledge of morphological, phonological, and orthographic patterns.
3. Learning disabled students have often experienced so much failure that they feel inadequate or helpless in improving their skills.
4. Learning disabled students often lack appropriate strategies and/or plans to aid the study and recall of spelling patterns.
5. Learning disabled students often do not understand the importance of acquiring skills in spelling.
6. Spelling programs are often boring or unmeaningful to the learning disabled student.
7. Teachers sometimes fail to recognize that their instructions are unclear.
8. Students are sometimes provided with spelling exercises that contain words with which they are unfamiliar and/or cannot pronounce. The words are not taught but they are expected to learn them.
9. Principles are taught to students that cannot be generalized or applied to other situations.
10. Spelling programs may only facilitate word-memory rather than providing students with an opportunity to manipulate words and promote self-discovery.

Problems Learning Disabled Children Have with Spelling

1. Difficulty with linguistics and general lack of competence with language.
2. Difficulty with recalling/visualizing letter formations.
3. Difficulty with letter-sound relationships.
4. Difficulty with discriminating sounds or phonemes.
5. Difficulty identifying and/or sequencing letters or phonemes.

Essentially, spelling is a very difficult skill to master and a variety of problems emerge due to the heterogeneity of the learning disabled population. The list of spelling problems and prevalent circumstances can assist the teacher to isolate the needs of learning disabled students and to provide effective intervention. It is also helpful to examine the common spelling errors made by learning disabled children.

Before any program is initiated, a thorough assessment of the student's strengths, weaknesses, capabilities, motivation, background, and skills should be conducted. Ultimately, the most desirable program would be one that caters to an individual's needs and allows him or her to improve his or her spelling skills and at the same time would be rewarding, successful, and universally applicable. It is also important to keep in mind that learning disabled students are normal students who have particular learning difficulties and underdeveloped strengths. A spelling program should reinforce the learner's strengths.

Strengths Out of Deficits

Use of alternative modes of expression, such as the following, may help turn deficits into strengths.

1. A learning disabled student might demonstrate poor handwriting but might enjoy typing or using a computer word processing program.
2. A learning disabled student might exhibit carelessness and poor work habits, but be responsive to strategies that aid planning, organizing, and self-monitoring his or her performance.
3. A learning disabled student may be weak in visual processing but enjoy complementary exercises with a language master or tape recorder.
4. A learning disabled student may find it difficult to memorize and recall a list of spelling words but enjoy developing his or her own word list from other sources such as magazines, manuals, and songs.

In order to provide appropriate spelling programs, teachers should administer both formal and informal assessments. Teachers should investigate the major areas that can influence spelling performance in order to provide remediation that best meets the needs of the individual.

Assessing Present Levels of Performance

A. General Aims of Assessments

1. To obtain a measure of spelling ability.
2. To obtain an error analysis.
3. To obtain measures of expressive/receptive language skills particularly in terms of phonetic ability.
4. To obtain measures of visual perception, auditory perception, and memory span.
5. To obtain a measure of the student's academic self-concept, particularly in reference to his or her ability in spelling.
6. To obtain information on the student's knowledge and employment of spelling strategies.

B. Guidelines for Spelling Assessments

1. Does the student have sufficient mental ability to learn to spell?
2. Are the student's hearing, speech, and vision adequate?
3. What is the student's general level of spelling ability?
4. What are the student's weaknesses in spelling?
5. What systems, techniques, or activities might be used to remedy the student's problems with spelling?

Formal Assessments

Spelling Ability

A number of norm-referenced tests are available to measure the spelling abilities of learning disabled students.

Tests	Characteristics
Peabody Individual Achievement Test (Dunn and Markwardt, 1970)	Grades ECS to 12 Method: Individually administered Purpose: It provides spelling information in terms of grade equivalents, percentile rank, and standard scores.
Wide Range Achievement Test-R (Jastak and Jastak)	Grades ECS to adult Method: Group administered Purpose: General spelling problems can be estimated. Test provides grade equivalents.
Canadian Test of Basic Skills (Hieronymus et al., 1981)	Grades 3 to 8 Method: Group administered Purpose: Provides general spelling information. Grade equivalents and stanines are available.
Schonell Graded Word Spelling Tests (Oliver and Boyd)	Grades 1 to 6 Method: Individual or group administered. Purpose: Gives grade equivalent and can be used to determine use of syllabication or phonics.
Canadian Achievement Test (McGraw-Hill, 1978)	Grades 1 to 12 Method: Group administered Purpose: Provides individual and group scores and gives analysis of performance objectives.

Informal Assessments

Error Analysis

To gather information on particular spelling difficulties of the learning disabled student, the teacher can analyze errors from tests and assignments. The teacher can then develop an individualized instructional program and monitor the student's performance.

Common Spelling Errors of Learning Disabled Children

1. Spelling errors tend to be substitutions in the middle of the word (hes for has) or additions (sadd for sad).
2. Spelling errors tend to be phonetic in nature (cawt for caught).

3. Many spelling errors are due to confusion over vowels.
4. Inserting or omitting letters is a common error (hom for home).
5. Mispronunciation is a common error (pin for pen).
6. Reversing letters is a very common error (deb for bed).
7. Transposing letters (improper sequencing) is a common error (form for from).
8. Unfamiliarity with spelling rules creates many errors.
9. Poor handwriting results in many errors.
10. Words with irregular spelling create many errors.
11. Poor study habits can lead to errors.
12. Carelessness can lead to errors.

There are a number of tests than can be used to assist the teacher in analyzing errors.

Tests	Characteristics
Gates-Russel Spelling Diagnostic Test	Grades: Can be adapted to all grades Method: Individually administered Purpose: The test examines: <ol style="list-style-type: none">1. Spelling Words Orally<ol style="list-style-type: none">1.1 Spelling letter by letter1.2 Spelling by syllables1.3 Phonetic spelling1.4 Spelling by digraphs1.5 Substitutions1.6 Omissions1.7 Insertions2. Word Pronunciations<ol style="list-style-type: none">2.1 Guessing2.2 Letter by letter2.3 Phonetic analysis2.4 Blending3. Letter-by-letter sounding approach4. Spelling by syllables5. Reversals6. Ability to spell difficult words7. Auditory discrimination8. Spelling preference: visual, auditory, kinesthetic, combined
The Spache Spelling Errors Test	Grades: Can be adapted to all grades Method: Individually administered Purpose: It examines: <ol style="list-style-type: none">1. Omissions, e.g., single letter, double letter2. Additions as repetitions3. Transpositions4. Phonetic substitutions, e.g., vowel, consonant, syllable, words5. Unrecognizable or incomplete6. Non-phonetic substitutions, e.g., vowel, consonant
Brigance: Comprehensive Inventory of Basic Skills	Grades: Elementary Method: Individually administered Purpose: It is a norm-referenced and criterion-referenced test which will provide the teacher with grade placement and diagnostic information.

Kottmeyer Error Analysis

Among the most popular informal diagnostic tests is one developed by Kottmeyer (1959), which provides an analysis of errors and is very easy to administer and interpret.

The following provides a similar version of such a checklist that could be used to determine errors. By selecting appropriate words, grade-appropriate checklists could be made, or the original inventory devised by Kottmeyer (1959) could be used:

Word	Aspect Tested
1. bat	short-vowel
2. hug	
3. let	
4. kit	
5. pan	
6. coat	two vowels together
7. drain	
8. lime	vowel-consonant- <i>e</i>
9. bike	
10. round	ow-ou spelling of <i>ou</i> sound
11. clown	
12. moon	long and short <i>oo</i>
13. hood	
14. merry	final <i>y</i> as short <i>i</i>
15. happy	
16. keep	<i>c</i> and <i>k</i> spellings of the <i>k</i> sound
17. came	
18. when	<i>wh</i> , <i>th</i> , <i>sch</i> , <i>ch</i> , and <i>ng</i> spellings, and <i>ow</i> spelling of long <i>o</i>
19. than	
20. show	
21. much	
22. ring	
23. hill	doubled final consonants
24. ball	
25. after	<i>er</i> spellings
26. mister	
27. boy	<i>oy</i> spelling of <i>oi</i> sound, <i>ay</i> spelling of long <i>a</i> sound
28. hay	
29. little	
30. one	non-phonetic spellings
31. would	
32. pretty	

Observational Analysis

Teacher observation is an extremely important component of any informal assessment. The teacher might use a number of strategies:

1. Analyze written work; e.g., legibility of handwriting, range of vocabulary used.
2. Analyze oral responses; e.g., pronunciation, articulation, blending ability, ways of spelling words (i.e., letter by letter).
3. Interview student about methods of study, knowledge of spelling rules, attitude towards spelling.
4. Issue questionnaires; e.g., checklist of methods of study.
5. Observe spelling in course of daily work; e.g., attitudes toward spelling, study habits, extent of errors in regular written work.
6. Observe work on set tasks; e.g., ability to use dictionary, ability to give the pronunciation of words in dictionary.

Analysis of Strategies

Some researchers, Brown (1980), Flavell (1976), believe that ability deficits alone cannot account for the variations in performance experienced by students with learning problems. Presently, students with learning difficulties are identified by their poor academic performance without determining whether or not the student is familiar with the process required to complete the academic work successfully. To know how students plan, organize, and solve problems in academic tasks the teacher must observe the students' thought processes. The teacher can ask a student a number of questions to find out what knowledge and strategies the student is employing in spelling:

1. If you were to teach someone younger than yourself how to spell this word, how would you do it?
2. For each word, tell me what would be the most difficult part for you to remember.
3. What would be the easiest part of this word for you to remember?
4. How would you remember this word?
5. What could you do to help yourself remember this word?

6. What is spelling?
7. Tell me some ways that spelling is important for you?
8. If I gave you some words to spell, what part would be the most difficult to spell, the first part, the middle, or the last part?
9. Do you study by yourself, or do you just do it when someone like your teacher or parent asks you to do it?
10. If you were a teacher how would you teach spelling?
11. What do you need to know before you can spell a word?
12. Does it help to have the correct spelling of the word close to you in order to study the word?
13. Does it help to say the sounds of the word?
14. Is there anything else you do to help yourself study spelling words?
15. Would it help to write the word down when studying the word?
16. Where is the best place for studying spelling words?

Along with formal and informal measures that directly assess spelling ability, additional tests in other areas that might influence spelling performance may be used. Such areas include:

1. self-concept
2. eye-hand coordination
3. writing
4. language skills
5. word recognition
6. memory
7. auditory perception
8. visual perception.

Assessment Summary

Spelling is a difficult skill to master for the learning disabled student because of the complex processes that are involved in spelling words and because the letter sound correspondence does not always fit English orthography.

Researchers have identified many problems that learning disabled children appear to experience and common errors that they tend to exhibit. However, not all learning disabled children demonstrate

spelling difficulties, and the pattern of weaknesses can change from student to student. Before beginning any instruction or remediation, it is recommended that a thorough assessment of the student's abilities and performance be conducted. Evaluation should focus equally on a student's weaknesses and strengths.

In general, the individual differences that are exhibited by learning disabled children reinforce the view that many factors should be considered during an assessment. In the assessment process it is also important to be aware of the difference between the student's knowledge of spelling strategies and his or her ability to apply these strategies.

The major recommendation of this section is that teachers integrate their assessments to allow for the investigation and evaluation of all the primary factors that can influence the spelling performance of learning disabled students.

Intervention

Introduction

The approaches used to teach and remediate spelling are as diverse as the variables involved in spelling performance. Teachers need to be selective when choosing the methods to be used with learning disabled students.

Spelling instruction is usually oriented to a large group. For many years, the practice has been to teach spelling in conjunction with exercises provided in spelling books. Many students find this procedure helpful. However, many students like learning disabled students do not seem to benefit from this traditional group method (Smith, 1981).

Research suggests that spelling programs should focus on the individual rather than the group because of the variety of differences in ability. The program should be easy to understand and allow for consistent and confident use. Children should be informed of the meaningfulness of spelling and its importance to their present and future needs. Essentially, children should be told their study has a purpose. Here are some general guidelines.

1. Give clear instructions.
2. Provide consistent reinforcement.
3. Develop purpose in spelling, and facilitate memory of words.
4. Give students an opportunity to manipulate words.
5. Have spelling instruction occur in all subject areas.

Horn (1981) presents some characteristics of an effective spelling program.

1. Student should learn how to spell only words which are familiar in meaning and pronunciation. Students should not be expected to learn meaning, pronunciation, and spelling simultaneously.
2. Students should only learn how to spell words that are causing them difficulty.
3. Self-correction is the single most influential variable affecting the student's ability to learn spelling.
4. The teaching of phonic generalizations is a highly questionable practice; they should only be taught when they have a wide applicability.

Procedures for Teaching Spelling

General procedures that are supported by research include the test-study method rather than the study-test method (Yee, 1969), having students correct their own work (Schoephoerster, 1962), and making spelling interesting and fun (Horn, 1969). Three popular and well-supported methods of study include the Fitzgerald method (Fitzgerald, 1951), the Horn method (Horn, 1954), and the cover and write method (Graham and Miller, 1980). The cover and write method is widely advocated, but not often used. The procedure has four steps:

1. Look at the word and say it out loud.
2. Cover the word and imagine what it looks like.
3. Write the word down without looking.
4. Compare the word that has been written with the correct spelling. If the word is misspelled try steps 1-3 again.

Instructional Activities

1. Ensure spelling list is at success level, and maintain a chart of successes.
2. For **visual perception problems**:
 - a. reproduce words on a variety of surfaces;
 - b. match words in newspapers, texts, and magazines;
 - c. underline word parts (i.e., digraphs, diphthongs, consonant blends) with different colors;
 - d. construct charts of words that exhibit similar features.
3. For **visual discrimination problems**:
 - a. teach the child how to examine the word, delineate its special characteristics and then verbalize them for each word;
 - b. have children construct word puzzles;
 - c. cut out letters from a variety of sources and have the child arrange them sequentially;
 - d. use newspapers and magazines and have children underline all "ie"s, "ou"s, "b"s, "d"s, etc.
4. For **visual memory problems**:
 - a. have children close their eyes and recall the letters of the word verbally;
 - b. use a kinesthetic approach;
 - c. provide games. For example, children (in pairs) have words in front of them made from puzzles (i.e., Scrabble). One child observes a word made by the other child, and then closes his or her eyes while the other child removes one letter. The first child looks again and has to tell which letter is missing.
 - d. provide practice in discriminating sounds of letters.
5. For **auditory perception problems**:
 - a. teach children good listening habits;
 - b. use record players, tape recorders, etc. with earphones;
 - c. reward child for good attention;
 - d. build auditory responses with whisper activities;
 - e. have child listen for differences between pairs of words, i.e., sit, set; gone, done, etc.;
 - f. have child close eyes and try to identify noises in the environment.

6. For **auditory discrimination**:
 - a. use ITPA curriculum techniques for auditory memory and closure;
 - b. provide "Spelling Bees" with a "fail-safe" approach;
 - c. use Fernald VAKT spelling system (described in a later section).
7. For **auditory memory problems**:
 - a. have children practice repeating a sequence of digits, letters, and words;
 - b. have children practice following directions;
 - c. have children write words while saying sounds (ref. "Simultaneous Oral Spelling" approach);
 - d. use listening centres with recorded information to be remembered.
8. For **omissions and insertions of letters**:
 - a. practise carefully observing the word;
 - b. teach self-monitoring techniques;
 - c. provide many opportunities for oral use of words;
 - d. provide practice in discriminating sounds of letters;
 - e. provide practice in writing and pronouncing the word.
9. For **phonetic substitutions**:
 - a. practice auditory discrimination;
 - b. provide lots of practice with oral spelling and stress correct pronunciations.
10. For **transpositions or partial reversals** practice sequencing of letters and reinforce rules.
11. For **increasing spelling interest and motivation**, play games such as puzzles, Rummy, Scrabble, Hangman (see Thomas, 1979), or incorporate electronic spelling devices and computer games. These should be integrated into the objectives of the course.
12. For **general discrimination problems**, use mnemonic devices which might help students classify and organize their spelling of certain words. For example: "The highest card in the deck is an 'ace' as in race." Teachers should attempt to develop other mnemonic devices.

Multidimensional Programs

Most learning disabled students have a variety of reasons for their difficulty, and therefore these students need to be treated by multidimensional programs, rather than isolated remedial ones.

Direct Teaching

The direct teaching approach can be implemented for any student. The student's skills must be assessed and then the student is provided with a spelling program that specifically meets the needs of the student. The intent of the direct teaching approach is for the student to be guided by the teacher towards improving his or her spelling performance in accordance with an individually designed program that has objectives which have been established and sequenced.

For example, if a student demonstrates poor spelling performance due to phonetic weaknesses, disorganized work habits, ineffective spelling strategies, and inconsistent self-monitoring, a direct teaching approach such as the following could be utilized:

Procedure for Each Word

Steps	Purpose
Look at the word and sound it out.	To reinforce decoding skills and phonetic analysis of word.
Describe verbally what each word looks like.	To attend more closely to the configuration of the word in order to enhance visual memory.
Write the word on a file card.	
Write the word in the notebook and check it.	To reinforce the need to write the words down to enhance visual memory. To reinforce attention to the task and self-monitoring.
Give a meaning for the word.	To facilitate meaningful learning.

Check meaning of word in dictionary and write it in notebook.	To reinforce need for meaning. To give more experience in seeing word in another context and reinforce visual meaning of word.
Write the word in a sentence in the notebook.	To provide practice towards improving writing performance and make the exercise personally meaningful.
Say the word out loud.	To reinforce correct pronunciation. To provide more focus on the letter-sound correspondence of the word. To reinforce active involvement in the remediation process.
Spell the word out loud while looking.	To reinforce letter-sound correspondence. To reinforce preference for spelling words out loud. To provide more focus on visual pattern of the word.
Spell with eyes closed (go back to previous step if mistake is made).	To reinforce visualization of the word, increase attentional behavior and encourage concentration.
Put card away and spell it in notebook (go back to second last step if mistake is made).	To reinforce writing/ studying method.
Compare written word with file card.	To reinforce monitoring of performance with a reliable comparison.

The student can be tested daily on the list of words and then instructed to correct his or her own test by using his or her file cards. This is done to reinforce the student's active participation and provide means by which the student can monitor his or her mistakes.

Self-Instructions

This remediation approach is based on a self-instructional design and focuses on cognitive behavior modification (CBM) principles. The self-instructional orientation stresses the contribution the learner makes to his own learning and focuses on child centred instructional strategies. The (CBM) self-instructional method is modeled for the student by the teacher and then closely monitored until the student has mastered the procedure. (See the Cognitive Education approach in Part 1 of this chapter, page 4.1-7.)

This method can incorporate some of the student's existing strategies and strengths into a program with a more disciplined and structured format. The student becomes an active participant and may be in control of his or her studying.

Procedure:

1. The student will look at the word, say it aloud, write it, and then check the word. However, before performing this task the student will ask himself the question, "What is my plan?", then answering "I am going to learn how to spell it correctly so everybody will be able to recognize it." After correctly copying the word the student will reward himself or herself for successfully completing the first task: "Good, now I can concentrate on learning this word." This first step draws attention to the task and creates a mind ready for further study.
2. The next step is for the student to create a visual image to help recall the correct spelling. The student will imagine that he or she is writing the word on a large surface such as a chalkboard. The student will close his or her eyes and pretend that he or she is writing the word while saying aloud each letter of the word. If the student is unsure of the correct spelling, the student may look at the spelling of the word and then continue to practice until the student is able to create an image of the word without looking at the spelling of the word. After successful completion of this procedure the student will reward himself or herself. For example: "Now that I have written the word I am going to put it in my mind so that I can have some

place to look for it when I need to spell the word.” This exercise forces the student to attend to the task of spelling the particular study word; it also requires concentration for successful completion of the task. The student will conclude this step by rewarding himself or herself. For example: “Good. I have put this word in my memory so that I have some place to look for it later.”

3. Next, the student writes the word and says each letter of the word. The student will do this twice to see that the word has been written correctly each time. This step promotes the organization of correct motor patterns and the subject begins to understand that each syllable can be represented by more than one unit. The student establishes a one-to-one relationship with spoken and written symbols as the student writes and names each letter. The student is learning to label, discriminate, recall, and organize through a multisensory approach and strengthens the visual image of the word the student has created in step 2. This procedure caters to different combinations and difficulties of spelling performance. Auditory analysis is aided by overt verbalizations, and visual analysis is aided by writing and seeing the word. Steps 1, 2, and 3 are consistent methods considered to be essential in spelling. Spelling involves motor skills, automatic recall, discrimination, memory, and integration and practice. The student acquires knowledge of spelling by working with the word in a structured way, rather than by habit. This method takes away the immediate demand to spell words phonetically, a practice which has created a lot of errors. Learning disabled students should begin to see the orthographic nature of words that good spellers see.
4. At the beginning of the study session each student will be shown the words the student will be responsible for studying. Each student will be required to construct word cards. Each word card will have one of the words the student has to learn to spell with two letters missing. Each student will make his or her own cards and place the blank spaces in various positions for the different words. When

the student is at step 4 of the program, the student will get the card for the particular word the student is studying (which until now has been filed in a separate place) and then by starting at the beginning of the word will verbalize out loud each letter and also fill in the blanks with the missing letters. This procedure is related to the cloze technique used in reading comprehension strategies. The aim is to develop the patterning and sequencing that are essential components in spelling. Spelling depends on storage of letter identity and sequence. This method avoids direct emphasis on letter-sound relationships, which, due to the inconsistent orthographic structure of the English language, can cause many problems in spelling. After completing the word card the student will check his or her work with the correct spelling of the word and then reward himself or herself for his or her accomplishment.

5. After completing step 4 with the first word, the student returns to step 1 with the next word and then continues the program until all the assigned words have been completed.
6. When the student has finished all the words, he or she will be required to make a sentence that contains the spelling words. The sentences made by the student are related separate ideas, or are interrelated to express one idea or story. The format choice is determined by the student and he or she will be expected to write and verbalize the sentence. The aim of this exercise is to make the task of spelling more meaningful. The emphasis on this task is on the correct spelling of the studied words and not the correctness of the other words used in constructing the isolated sentences or story.
7. The final exercise requires the student to write all the study words from memory and then indicate the words he or she knows for sure that have been spelled correctly. After completing this task he or she will check the work and reward himself or herself verbally. If the student misspells a word or is not sure of the correct spelling of a word, the requirement is to repeat steps 1 to 4 with those words he or she misspelled or was unsure about.

All these steps contain strategies that are considered by many researchers to be important elements in a successful spelling program. The approach used for efficient acquisition and use of these strategies is based on Meichenbaum's cognitive behavior modification model. It stresses the overt verbalization of efficient problem-solving strategies which are later converted to covert verbalizations, self-instructional procedures, self-assessment, self-evaluation, and self-reward.

Metacognitive Approach

When metacognition is applied to spelling it can be viewed as a sequence that begins with the speller's conceptual understanding of the skills needed for efficient spelling and ends with the use of strategic spelling behaviors. Many learning disabled students employ inefficient and/or insufficient strategies, hence the metacognitive approach attempts to facilitate a more efficient utilization of their cognitive abilities and develop understanding. The value of using a metacognitive framework lies in the increased emphasis on the speller's responsibility for knowledge and control, and on the teacher's role in developing success and ability.

The following is an example of a metacognitive approach to studying spelling.

- Step 1:** The student is made aware of the importance of spelling along with his or her specific difficulties in spelling.
- Step 2:** With assistance from the teacher, the student establishes objectives and goals for studying spelling.
- Step 3:** With assistance from the teacher, the student focuses on the demands imposed by the spelling task: concentration, memorization, writing, and practice.
- Step 4:** The student strategically plans the regulation and monitoring of the studying task: looking at the spelling word, memorizing and visualizing the word, examining word parts, and executing steps involved in efficient spelling study (which is taught by the teacher according to the student's cognitive strengths and weaknesses).

Step 5: The student selects and implements efficient study strategies.

Step 6: The student periodically assesses spelling study successes and monitors performances.

As Babbs and Moe (1983) suggest, the focus of the metacognitive approach is to teach students to use knowledge about the spelling task independently and to plan, regulate, and monitor their spelling/thinking activities.

The preceding descriptions of the direct teaching, self-instructional, and metacognitive approach all share a common focus. These approaches support the view that one of the primary reasons for learning disabled students' difficulty with spelling is their insufficient, inconsistent, and/or ineffective use of spelling strategies. These students can be taught skills and plans that might result in self-guiding behavior, more active participation, and improved spelling performance.

There are three procedures that attempt to make the spelling task more automatic and that encourage independent mastery:

- a. The Multi-Sensory method,
- b. Visual-Imagery approach,
- c. Trouble-Word approach.

Multi-Sensory Method

The multi-sensory approach, which has been successful with many students, attempts to strengthen and integrate the visual, auditory, kinesthetic, and tactile modalities. It is often referred to as the VAKT procedure. Fernald (1947) has made a number of recommendations for the teaching of remedial spelling.

- 1. The word to be learned should be written on the blackboard or on paper by the teacher.
- 2. The teacher pronounces the word very clearly and distinctly. The students pronounce the word.
- 3. Time is allowed for each student to study the word.
- 4. When every student is sure of the word, it is erased or covered and the student writes it from memory.

5. The paper should be turned over and the word written a second time.
6. The student should be allowed to make use of the word frequently in written expression.
7. Finally, it is necessary that the student be allowed to get the correct form of the word at any time when he or she is doubtful of its spelling.

Another method emphasizes a multi-sensory technique for spelling that requires the child to look at the word and then visualize it. Next, the child must try to isolate the word from an array of similar words, complete closure exercises, unscramble letters to arrange proper sequencing, focus on the number of letters in the word, and then conclude with writing the word from memory. Another similar program entitled the "Group Fernald Technique" was adapted from the Fernald method. This method requires 15 minutes a day and involves tracing, repetition, and memory exercises.

Visual-Imagery Approach

Caban (1979) tested the hypothesis that spelling words can be better learned and retained by using a mental imagery approach compared to a "drill and practice" method or a "no direction" procedure. The students in the experimental group traced their spelling words on a "magic slate" which was comparable to an opaque sheet overlying carbon paper. The students were instructed to take each spelling word and form a mental picture of it, reproducing the words on the slate with the correct spelling of the word in their view. The students were then instructed to check the spelling, erase the slate, and repeat this process five times.

Forrest (1981) defines imagery as a form of mental action that is basically a reconstruction. Forrest describes a method for teaching a student with a learning disability in spelling to use visual imagery as a strategy to overcome this disability. The student is first requested to conjure up a mental picture of something to write on such as a chalkboard, writing paper, semi-hard cement, or a sandbox. The student is then asked to visualize himself or herself (with eyes closed) writing the letters of a word as

they are being called out by the teacher. The student is instructed to try to retain the image of these letters but report if they fade. If they fade, the letters are to be repeated. If the student is able to image the whole word, the student is asked to call off the letters backwards - "fast". This is to verify that the entire word has been imaged. If this is accomplished, then at different intervals during the day the student can be asked to go back in his or her mind, see the word, and call off the letters either forwards or backwards. If, at this later time, the student is not able to conjure up the image of the word, the original procedure is repeated. The purpose of this procedure is to train the student in the use of a new strategy, that of conjuring up, recalling, and trusting images of written language. The imagery approach gets to the core strategy in visual information processing, and teaches the student how to use the strategy in order to enhance overall performance and to circumvent a persistent auditory-verbal processing problem. In effect the child is shown how to become a true partner in the process of helping himself or herself to learn (Forrest, 1981, page 586).

Durrel (1980) believes letter names are essential for teaching pre-reading phonics, and for making the student aware of the sounds in spoken words. Sounding out letter names develops a relationship of sounds to letters and is an aid to word analysis where spelling seems to work much better than sounding. He indicates that saying the letters in the printing words bears some relationship to the sounds of the spoken word and creates a semantic relationship that helps to pronounce words regardless of the orthographic oddities. Letter names essentially carry out an effective phonetic service that enables students to move smoothly from speaking to reading to writing.

Bradley (1981) reported that the "Simultaneous Oral Spelling" approach establishes a one-to-one relationship between the spoken word and the written symbol as a student names each letter as he or she writes it. When using this method the student is learning to label, discriminate, recall, organize, and analyze spelling words through a multi-sensory approach. The visual

and auditory modalities are linked through writing. She argues that the results of her study demonstrate that the ability to spell correctly is dependent upon the correct motor patterns for writing the words.

Trouble Word Approaches

Identifying troublesome words for individual students and then providing intervention for these words is very often an appropriate place to start a spelling program. One way to do this is to examine student compositions and note the frequency with which these words are misspelled. In an Alberta study, Thomas (1979) analyzed the spelling errors that students in grades 1 to 6 made and found the twenty-five most frequently misspelled words in each of the elementary grades.

Thomas (1979) recommends using a test-study procedure that directs each student's efforts toward the study of words which he or she has not as yet learned in another

context. Thomas provides a list of the 3,000 words most frequently written by students in grades 2-8. Thomas' study also contains teaching strategies, suggestions for developing desirable attitudes, and information on various corrective procedures, and instructional games/activities that can be used in a remediation program. Additionally, he provides a systematic approach for accurate record keeping that can assist teachers and students in monitoring their spelling achievements.

Metacognitive/Trouble Word Approach

A combination of the metacognitive and trouble word approaches has been advocated by some writers — particularly for adolescent learners. A student of secondary school age who has difficulty with non-phonetic spelling; transposes, substitutes, or omits letters; or demonstrates a lack of attention and concentration may benefit

Problem Words (Thomas, 1979)

Grades	1	2	3	4	5	6
Words	too they to friend goes because little said straw teacher was nice like there have when wants I eat sometimes went would after then of	too because upon they wheels about again didn't holiday said scared that's to ghost good-bye morning our people dead many nobody summer there their would	too because friend that's through there upon went where finally wait am first its another clothes know said their were baseball beautiful favourite ghost hockey	their through because friend to an off that's they there heard know finally again course then went caught told think were everyone favourite first had	too that's until there lot you're silver beautiful its friend chief again holiday honour off quite received they stubborn started scream listened experience cute beauty	their too that's friend it's lot there our beautiful grabbed heard outside then they you're finally pollution started people supper through where morning were when

from this approach. The following is an example of how this approach might be used with a student.

Procedure:

- 1.First, the student is provided reasons for the importance of spelling: both general (i.e., applying for future employment) and specific to the individual (i.e., influencing grading in other subjects).
- 2.Next, the student is informed of the results of the assessment with reference to both strengths and weaknesses.

- 3.The teacher describes the complexities of the spelling task and the goals designed for this individual's particular spelling program. There are several goals: the student will regulate spelling study, the student will monitor spelling study and performance, and the student will assess spelling study success.
- 4.The student is provided a study plan that will be controlled by the student and overseen by the teacher.

Study Plan

Steps	Purpose
1.Student is told that the program requires 15 words a week to be studied and that a spelling test will be administered when the student reports satisfactory termination of study.	To provide a base for the spelling program and low flexibility in study time.
2.The teacher provides the student with five of the words at the beginning of each week (from the “Most Frequently Misspelled Word Lists” which the student is known to have difficulty with) and the student is responsible for the other 10 words. Five words from the academic subjects (texts) and five words from preferred sources.	To provide a list of words that cause difficulty, and to facilitate independent regulation of word lists to enhance the meaning and purpose of study.
3. After all 15 words are selected the student prepares a word list in a separate program booklet, along with an analysis of the words (this is initially aided by the teacher).	Generally, to reinforce the structure involved in efficient spelling study and provide/enhance spelling knowledge.

Example

Word List	Analysis
review	1. re: regular sounding prefix 2. ie: irregular spelling 3. two syllables, re view
carpenter	1. “k” sound for “c” 2. ar: r controlled vowel 3. pen: regular sounding word part 4. ter: regular sounding word part 5. three syllables car pen ter

(cont'd)

(continued)	championship	<ol style="list-style-type: none"> 1. "ch" consonant blend 2. "amp" regular sounding digraph 3. "ion" consonant blend 4. "sh" consonant blend 5. "ip" regular sounding digraph 6. four syllables cham pi on ship 7. compound word: champion ship
	Canadian	<ol style="list-style-type: none"> 1. Capital "C" for proper names 2. four syllables Can a di an 3. irregular digraph "di" 4. two similar digraphs "an"

- | | |
|--|--|
| <p>4. Student is encouraged to use dictionary to aid proper pronunciation.</p> | <p>To ensure correct pronunciation of words.
To provide two dependable sources and checks for pronunciation and phonetic breakdown.</p> |
| <p>5. Next, the student is required to provide a definition for each word and then use the word in a sentence or use all the words to create a passage. All spelling words must be underlined and the spelling checked before the teacher's assessment. The only focus is on the spelling words and legibility of handwriting, and not the spelling correctness of other words, or grammatical composition of sentences or paragraphs.</p> | <p>To enhance meaningfulness of correct spelling and provide the student with self-monitoring practice. Additionally, to develop writing skills.</p> |
| <p>6. Next, the student is given a spelling test by the teacher.</p> | <p>To provide teacher/student with a means to evaluate achievement.</p> |
| <p>7. Next, the student checks own performance and completes a spelling chart analysis for words that are incorrectly spelled (Thomas, 1979).</p> | <p>To provide self-monitoring reinforcement and enhance active participation in terms of evaluation and correction.</p> |

Example

Word List	My Misspelling	Error Type
review carpenter twilight tongue	reveiw carpender twlight tuag	transposed letters mispronunciation omitted letter unfamiliar with irregular spelling
imagine championship morning different Canadian birth among mathematics athlete library	imagen champonship moring diferent Canadain berth amoung mathamatics athalete library	phonetic error omitted letter omitted letter omitted letter transposed letters incorrect digraph added letter substitution error added a letter omitted letter

(cont'd)

Steps

Purpose

(continued)

8. The last step involves assigning 15 more words to study along with the words spelled incorrectly in the preceding test.

To provide closure for each word list and facilitate continuation of the program.

This program provides a systematic approach to remediating spelling difficulty and monitoring spelling achievement for both the teacher and the student. Its major focus is to provide guided knowledge by the teacher and facilitate the use of strategic spelling behaviors by the student. The student is encouraged to become an active and interested participant who is responsible for controlling the study of spelling by monitoring the performance, determining the success, and resolving the breakdowns. The approach incorporates an efficient plan for successful completion of the task and should include the individual's preferred mode of study and personal strengths. In essence, the program attempts to remediate the major weaknesses through the individual's strengths. For example, the approach focuses on improving the student's ability in phonetic analysis, writing skills, locating and correcting common errors, planning, organizing, and monitoring performance by following a strategic design that allows the student to work on his own, reinforce the personal desire to improve achievement, and utilize material or words from more meaningful or favorite sources. Additionally, the student regulates his or her own time and effort during the week because the only requirement is the need for the student to complete the steps of the program within a five day school week.

The next phase of the program might utilize another major strength/interest of a student by adapting the program to the computer. This might increase the speller's motivation and responsibility along with emphasizing the teacher's role in developing independent control and facilitating spelling ability and success.

In summary, the metacognitive/trouble word approach can be adapted to any spelling disabled adolescent in a regular classroom. The student only studies and monitors performance on words that are causing him or her difficulty. It allows students to work independently at their own pace and level of ability. The teacher needs to provide continual guidance and assistance to ensure program maintenance and to be flexible in adapting the general structure to individual needs.

Use of Computers

Many software packages for spelling are available. It is important to understand the approach on which the software package is based, e.g., word family, trouble words, etc. The software program chosen should augment the approach(es) used to teach spelling in the classroom.

Computers can also assist students in compensating for spelling difficulties through the use of programs which automatically check for errors. (For evaluation of software, contact the Curriculum Clearinghouse, Alberta Education.)

Conclusion

In terms of intervention, the teacher should attempt to individualize spelling programs as much as possible due to the varying difficulties underlying the spelling performance of learning disabled children and because very often learning disabled students do not benefit from traditional group methods. Occasionally, a few isolated difficulties will be the cause for spelling problems, hence, particular instructional activities such as the ones mentioned in this chapter and in other sources will be helpful and sufficient. However, most learning disabled students have much more complex

reasons for their difficulty in spelling which necessitate an integrated approach to spelling remediation. When choosing a program for their students, teachers should only use words that are relatively familiar and that students can pronounce. Students should only learn words that are causing them difficulty, hence, a test-study-test method is recommended. Students should also be consistently reinforced for their efforts, be provided meaningful exercises, and be allowed and encouraged to develop mastery skills. Essentially, all the guidelines, procedures, activities, and approaches can be integrated according to the student's particular needs and the teacher's predisposition. The primary recommendation is that teachers recognize what each student needs to be taught and designs or utilizes a program that meets those needs.

Summary

This section:

1. reinforces the view that thorough assessments should be conducted and individualized programs be designed for children who have spelling difficulties,
2. points out that learning disabled students typically have average intelligence and a variety of strengths and that this potential and capacity should be used in improving their spelling performance,
3. suggests that learning disabled students can be taught effective and efficient spelling strategies that involve such things as organizing, evaluating, checking, and monitoring performance,
4. points out a variety of formal and informal measures to gain information about a student's skill and knowledge of spelling,
5. stresses the importance of choosing the right kind of program that will suit the needs and abilities of the student,
6. provides a variety of spelling approaches.

Chapter IV

Part 6

Mathematics

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Chapter IV: Part 6

Mathematics

Objectives

The purpose of this section is to:

1. develop an awareness in those involved with learning disabled students of the difficulties that these students encounter in mathematics,
2. acquaint teachers with the various methods of assessing mathematical abilities,
3. stress the importance of an intervention that involves the student, the teacher, and the parent(s),
4. describe a variety of teaching approaches that may help the teacher to plan a program that meets the individual's strengths and weaknesses,
5. provide programming suggestions that will assist teachers and parents when dealing with various types of learning disabilities.

Introduction

Learning disabilities are often associated with reading difficulties. In fact, a large portion of the research dealing with learning disabilities focuses primarily on reading problems. Regardless of this, it is evident that a large number of learning disabled students experience difficulties in mathematics, either as a primary deficit or a concomitant problem. Therefore, the following section will provide information on the different types of difficulties with mathematics experienced by learning disabled children. In addition, it will discuss formal and informal assessment procedures, and intervention strategies.

Problems Learning Disabled Students Have with Mathematics

General Factors

The difficulties that some students experience in mathematics are not always obvious. However, once these difficulties have made themselves known, it is good practice to discover what the reasons are behind the difficulties, and to precisely identify and remediate these difficulties.

Some of the **general** reasons underlying mathematics difficulties in learning disabled students are (Hammill, Bartel, Bunch, 1984; Wallace and Larsen, 1978):

1. **Ineffective instruction.** Learning disabled children are frequently identified by good performance in arithmetic concepts acquired incidentally as compared with skills that are the result of specific instruction. In addition, instructional methods often are not varied to meet the learning disabled student's unique learning style or strengths and weaknesses.
2. **Inappropriate emphasis.** Emphasis is placed on mastery of rote mathematical skills rather than on understanding the underlying concepts, or on developing cognitive thinking skills.
3. **Emotional problems.** Lack of success in mathematics can cause the learning disabled student to develop a negative self-concept that will inhibit his or her actual performance. Such students often become anxious or unmotivated, develop a poor attitude, or begin acting up when presented with mathematical activities.

4. **Difficulties.** Difficulties in any number of areas can influence the learning disabled student's mathematical performance:

- a. inefficient strategies,
- b. inability to retrieve labels,
- c. inability to produce written responses,
- d. poor short-term and/or long-term memory,
- e. poor spatial relations,
- f. impaired communication,
- g. excessive fatigability and short attention span.

5. **Difficulties in abstract or symbolic thinking.** This interferes with the student's ability to conceptualize basic mathematical principles such as the structure of the number system or the relationship between numerals and the objects they represent.

6. **Underdeveloped cognitive skills or strategies.** Learning disabled students are unaware of how to use and apply cognitive thinking skills when presented with a computational or word problem.

7. **Reading problem.** Students who have good computational skills and who can solve oral story problems may be unable to read mathematical problems.

8. **An assumption of competence.** Because of their ability to master rote mathematical operations, these students create a facade of competence when they actually lack an understanding of what they are doing. Their assumed competence makes them more difficult to recognize and delays the remediation process.

Specific Difficulties

In addition to the general factors that influence the learning disabled student's performance in mathematics, there are some difficulties that are exclusive to mathematics:

1. an inability to associate numbers with numerals;
2. an inability to perform mathematical operations;
3. difficulty in understanding place value;
4. a lack of understanding of underlying mathematical principles (i.e., conservation, ordering reversibility, association);

5. an inability to understand the meaning of the process sign;
6. an inability to retain number combinations (memory);
7. a lack of skill — previous material not fully mastered before moving on to new more advanced material;
8. an inability to decide which process to use in problem-solving;
9. an inability to follow and remember the sequence of steps to be used in various problem-solving strategies, or in various mathematical operations;
10. an inability to identify the important ideas in a reading problem;
11. a reading level below that required for comprehension of the problem;
12. an inability to organize the task to facilitate its completion;
13. a lack of mathematical vocabulary;
14. an inability to make appropriate inferences from data, and draws inappropriate conclusions;
15. an inability to remember related information, such as formulas needed to complete the problem;
16. a lack of awareness of temporal relationships;
17. reversals and mirror images displayed in writing digits;
18. difficulty with spatial relationships (i.e., direction, location, ordering) that are important in understanding mathematical concepts;
19. an inability to reproduce numbers correctly;
20. poor fine-motor coordination resulting in sloppy number reproduction and computation errors;
21. difficulties in manipulating concrete objects or in using small calculators;
22. poor attending strategy resulting in impulsive, careless, non-analytic performances in mathematics;
23. a poor lowering of self-concept due to lack of success in mathematics;
24. lack of motivation and a poor attitude towards mathematics;
25. limited exposure to quantitative experiences;

26. a lack of awareness of cognitive strategies to apply to problem-solving and computational operations, or applies inefficient or faulty strategies;
27. an inability to visualize the problems mentally;
28. an inability to transfer and generalize mathematical information to other situations;
29. a lack of awareness of own thought processes involved when performing mathematical operations or problems;
30. an inability to verbalize the correct response.

7. specific difficulties influencing mathematical performance;
8. past programs to determine which instructional approach will best suit his or her needs at this time.

Formal Assessment

Although learning disabled students often demonstrate mathematical difficulties, the underlying problem or specific deficit area may not be obvious. At this point an assessment is employed to discover the student's difficulty and to initiate corrective intervention. The assessment process can be carried out, in part, by the teacher using formal and/or informal tests. Informal measures assist the teacher by probing for specific deficit areas, whereas formal tests identify a broad area of difficulty.

Many teachers administer formal mathematics tests to confirm what they already suspect. Others, due to time restraints, apply informal test methods to formal tests, in order to glean extra information from these broad survey tests. Few formal mathematics tests adequately measure the learning disabled student's strengths and weaknesses. The existing formal tests usually only identify areas that need further examination by informal and/or psychological assessments.

Some examples of **formal** tests that give a general idea of the child's functional level in mathematics are listed in the chart below:

Assessment

Purpose of Mathematical Assessment

Assessments are administered to gather a variety of information on the learning disabled student:

1. strengths and weaknesses in mathematics;
2. individual learning style;
3. overall ability;
4. types of errors and problems experienced in mathematics;
5. understanding of mathematical operations;
6. cognitive strategy application (if any, or if faulty);

Tests

Characteristics

Key-Math Diagnostic

Arithmetic Test (Connolly, Nachtman, 1979)

Grades: ECS to 8

Method: Individually administered

Consists of 14 subtests organized into three areas:

1. content,
2. operations,
3. applications,

An appendix contains a description of specific behaviors sampled by each item included in the test.

Canadian Achievement Test
(McGraw-Hill, 1983)

Grades: ECS to 12

Method: Group administered

Subtests measure:

1. math computation,
2. mathematics concepts and applications.

(cont'd)

Tests	Characteristics
Stanford Diagnostic Mathematics Test (Beatty, Madden, Garden, and Karlsen, 1976)	<p>Grades: 1.5 to high school</p> <p>Method: Group or individually administered</p> <p>Measures:</p> <ol style="list-style-type: none"> 1. competence in the basic mathematical concepts, 2. skills that are important in daily living, 3. specific areas in which the student is experiencing difficulty
The Diagnostic Mathematics Inventory (Gessell, 1977)	<p>Grades: 1.5 to 8.5</p> <p>Method: Individually administered</p> <p>Measures mastery of specific learning objectives in mathematics.</p> <p>Purpose: designed to help educational personnel plan individual educational programs and to diagnose strengths and weaknesses.</p> <p>Additional: provides three Learning Activities Guides that match specific test items to learning activities that teach that objective. A Guide to Ancillary Methods is included.</p>
Diagnostic Inventory of Early Development (Brigance, 1978)	<p>Age: less than 7 years</p> <p>Method: Individually administered</p> <p>Measures twelve mathematics sequences such as rote counting, writing numerals, and recognition of money.</p>
The Diagnostic Inventory of Basic Skills (Brigance, 1977)	<p>Grades: ECS to 6</p> <p>Method: Individually or group administered</p> <p>Measures:</p> <ol style="list-style-type: none"> 1. number concepts, 2. mathematical operations, 3. measurement, 4. geometry.
The Diagnostic Inventory of Essential Skills (Brigance, 1980)	<p>Grades: Secondary students</p> <p>Method: Individually administered</p> <p>Measures:</p> <ol style="list-style-type: none"> 1. numbers (writing from dictation), 2. arithmetic functions, 3. fractions, 4. decimals, 5. percent, 6. measurement, 7. metrics, 8. mathematics vocabulary.
Canadian Test of Basic Skills — Arithmetic (Hieronymous et al., 1981)	<p>Grades: 1 to 12</p> <p>Method: Group or individually administered</p> <p>Measures:</p> <ol style="list-style-type: none"> 1. arithmetic concepts, 2. problem-solving.

(cont'd)

Tests	Characteristics
Stanford Achievement Series in Arithmetic (Kelly et al., 1964)	Grades: 1 to 10 Method: Group or individually administered Measures: 1. traditional arithmetic concepts, 2. computational skills.
Wide Range Achievement Test (Jastak and Jastak, 1978)	Ages: 5.0 to adulthood Method: Usually administered individually Measures: 1. counting, 2. reading number symbols, 3. computational skills.
Metropolitan Achievement Tests — Arithmetic (Durost et al., 1971)	Grades: 3 to 9 Method: Group or individually administered Measures: 1. computational skills, 2. problem-solving skills.
Monroe Sherman Group Diagnostic Reading Aptitude and Achievement Tests	Ages: 8 to 14 Method: Group administered Measures arithmetic skills.
Diagnostic Test of Arithmetic Strategies (Ginsburg, 1983)	Grades: 1 to 6 Method: Group or individually administered Measures procedures elementary children use to perform arithmetic calculations. Additional: provides an interpretation of the results and remedial instructions.
The Test of Achievement and Proficiency	Grades: High school Method: Group or individually administered Measures understanding of mathematical principles, and use of mathematics in everyday living.
Pattern Recognition Skills Inventory (Sternberg, 1976)	Ages: 5 to 10 Method: Individually administered Measures: 1. readiness in all mathematics areas, 2. reasoning skills.

As well as the above, some mathematics programs provide their own placement and review tests.

Informal Assessment

“Teacher-made” tests or informal assessments vary and can take the form of a very thorough inventory or of a checklist for a specific instructional sequence. Informal tests attempt to identify the faulty learning strategies of the individual student. The following guidelines provide information on developing an informal mathematics test.

1. Define the objective of each individual inventory (i.e., where the student's understanding of the addition concepts breaks down).
2. Choose the content area (i.e., addition, subtraction, word problems).
3. Note and utilize the scope-and-sequence chart of the mathematics program being used in the school. Examples are in most teachers' manuals or can be found in books such as the one by Hammill, Bartel, and Bunch (1983).

4. Determine what is an appropriate level of learning for the individual learning disabled student so that the test only tests for items that have been introduced in the class.
5. Task analyze the skill being assessed to become familiar with the underlying concepts required, not only to complete the items successfully, but also to understand them fully.
6. Write the actual items keeping in mind that multiple examples of each operation avoid the problem of a single careless error representing an inability to perform that operation. Also present items in the different formats that the child has been exposed to during class (i.e., $3 + 4 = ?$).
7. Make sure sentence structure and reading level are appropriate for the learning disabled student being assessed (assess mathematics skills, not reading)

8. After administration, identify and interpret the child's problem areas based on performance and on an analysis of errors on the test.

9. Follow up the written portion of the informal inventory with an oral interview, presenting similar problems, and noting what the child does and says. This process may help the teacher to identify the problem area and initiate effective instructional procedures.

An informal inventory gathers information about the learning disabled student's ability in a specific area, however it is only one part of the assessment process and is usually not valid alone. It should be used in conjunction with other techniques such as an oral interview, observation, and an error pattern analysis.

Example of an Informal Assessment

The learning disabled student is having difficulties adding a 3-digit equation with carrying, such as $469 + 233 = ?$ To complete this equation the student should:

- a. know the numerals and the numbers they represent,
- b. be able to name the "+" sign and understand the mathematical operation involved,
- c. know place value and addition with zero rules,
- d. have addition computational skills,
- e. have no major memory, motor, or spatial problems.

In order to determine where the learning disabled student's lack of understanding breaks down, an informal written test can be developed to test for the above. Follow up with an oral interview. Items that can be given are:

$$\begin{array}{r} 36 \\ + 51 \\ \hline \end{array} \quad \begin{array}{r} 72 \\ + 20 \\ \hline \end{array} \quad \begin{array}{r} 93 \\ + 64 \\ \hline \end{array} \quad \begin{array}{r} 314 \\ + 12 \\ \hline \end{array} \quad \begin{array}{r} 458 \\ + 101 \\ \hline \end{array} \quad \begin{array}{r} 304 \\ + 715 \\ \hline \end{array}$$

$$52 + 63 + 324 + 143 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 59 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 72 \\ + 18 \\ \hline \end{array} \quad \begin{array}{r} 67 \\ + 44 \\ \hline \end{array} \quad \begin{array}{r} 902 \\ + 18 \\ \hline \end{array} \quad \begin{array}{r} 256 \\ + 370 \\ \hline \end{array} \quad \begin{array}{r} 453 \\ + 827 \\ \hline \end{array}$$

$$39 + 27 = \underline{\hspace{2cm}} \quad 176 + 583 = \underline{\hspace{2cm}}$$

$$\begin{array}{r} 453 \\ + 278 \\ \hline \end{array} \quad \begin{array}{r} 251 \\ + 79 \\ \hline \end{array} \quad \begin{array}{r} 724 \\ + 399 \\ \hline \end{array} \quad 692 + 139 = \underline{\hspace{2cm}}$$

Error Pattern Analysis

An examination of the frequency of an error in a student’s work is known as an error pattern analysis. There are six basic steps in error pattern analysis:

- a.find and mark errors;
- b.fill in the correct response;
- c.describe the error;
- d.state a tentative conclusion;
- e.confirm the conclusion by observing the student’s performance in other situations where the same skills are required; and
- f. state a diagnostic hypothesis.

Hammill et al. (1984) noted that the most common failure strategies employed were:

- a.**wrong operation** - operation other than the one required to solve the problem;
- b.**obvious computational error** - error in recalling number facts;
- c.**defective algorithm** - error made in carrying through the necessary steps;
- d.**random response** - response shows no relationship to the given problem.

In addition, Backman (1978) has offered a summary of categories for answer patterns:

- 1.correct answer from a standard procedure;
- 2.correct answer from a nonstandard procedure;

- 3.no response;
- 4.random errors;
- 5.errors related to conceptual learning,
 - a. meaning and properties of an operation,
 - b. structure of the numeration system,
 - c. renaming and regrouping;
- 6.errors related to sequencing steps within procedures,
 - a. incorrect order of the steps in a procedures,
 - b. incomplete procedures;
- 7.errors related to selecting information or procedures,
 - a. correct algorithm for the operation, but some basic facts for a different operation,
 - b. algorithm and basic facts for a different operation,
 - c. correct facts for the operation, but an algorithm for a different operation,
 - d. algorithm for a different type of exercise for the same operation;
- 8.errors related to recording work,
 - a. incorrect numeral formation,
 - b. digit transposition,
 - c. misalignment of digits.

The following provides examples of some of the common errors often noted in students’ mathematical work.

Some Common Errors in Computation

Problem	Student Response	Type of Error
Count the number ••••	6	Lack of understanding of number composition and one-to-one correspondence.
3 + 8 =	10	Lacks computational skills or doesn’t know value of numerals.
3 + 8 =	8	Faulty strategy — places 3 objects, adds on 8 more, but counts original 3 in the set of 8.
56 – 12 =	68	Wrong operation.
?? + 6 =	12	Can’t perform inverse operations.
12 + 129 =	249	Spatial — cannot regroup or no concept of place value.
234 + 6 =	294	Poor eye-hand coordination and spatial skills.

(cont’d)

Problem	Student Response	Type of Error
$42 \times 3 =$	146	Computational error, or unsure of facts or memory.
$\begin{array}{r} 326 \\ \times 42 \\ \hline \end{array}$	652	Only multiplied by 2, failure to complete.
$\begin{array}{r} 326 \\ \times 42 \\ \hline \end{array}$	652 1304 1856	Improper alignment.
$\begin{array}{r} 552 \\ - 387 \\ \hline \end{array}$	225	Defective algorithm, subtracted the smaller number from the larger.
$\begin{array}{r} 742 \\ \times 59 \\ \hline \end{array}$	123	Random response, lack of interest or inability to cope.
$\begin{array}{r} 5.61 \\ \times 3.1 \\ \hline \end{array}$	173.91	Decimal in wrong place.
$\begin{array}{r} 617 \\ \times 40 \\ \hline \end{array}$	2468	Missing zero.
$1324 \times 5.6 =$	1324 $\times .56$ <hr/>	Incorrectly copied.
$5440 - 85 =$	04	Digit poorly formed.
$\begin{array}{r} 61 \\ + 17 \\ \hline \end{array}$	15	Added as four individual numbers.

An error pattern analysis may help the teacher decide which areas of the student's mathematical ability need attention. However, the origins of these errors are not obvious. There may be several reasons why a learning disabled student answered a mathematical question in a certain way. We can note the kind of error made, but we cannot describe how the student arrived at that particular answer or by what strategies. Such information is usually gained by an oral interview with the student.

The Oral Interview

The oral interview is time consuming, yet necessary. It is used to identify specific cognitive strategies, to provide additional information on the student's error strategies, or to confirm the teacher's insights derived from the student's assessments and daily work. Questions should be asked that have

potential for exposing misconceptions. Finding time in a regular class for an individual oral interview is difficult but not impossible. Such interviews can be conducted while the other students are doing seat work, during a study period, during a non-academic period (with the student's and other teachers' cooperation) and sometimes during recess or after school. The information gained from such interviews is worth the extra time and effort. A number of procedures for the interview have been compiled:

1. Select one problem area at a time.
2. Begin with the easiest problems first.
3. Tape or keep a written record of the interview.
4. Have the child simultaneously solve the problem in written form and "explain" what he or she is doing orally.

5. The child must be left free to solve the problem in his or her own way without a hint that he or she is doing something wrong.

6. Avoid hurrying the student.

The interview can yield information on the particular area of difficulty, on how the learning disabled student interprets the information given, on attitude, and on what traits and strategies influence his or her performance.

Observation

Observation by the classroom teacher and the psychologist can also be beneficial in analyzing a student's skills in mathematics. Observation is the process of looking at and recording behavior using checklists, rating scales, or anecdotal records. Observation also can be simply looking at a sample of the student's work. Developing a practice of daily checking the student's work may identify misconceptions before they can develop into deficits.

Assessment Summary

Formal and informal mathematics tests provide detailed information on the student's abilities in this academic area. When used with intelligence tests administered by a qualified psychologist, they provide a more comprehensive picture of the child's strengths and weaknesses.

Also, learning disabled students experiencing severe difficulties in mathematics may need additional testing in the areas that influence mathematical performance:

- Reading,
- Memory,
- Visual and Auditory Discrimination,
- Visual and Auditory Association,
- Perceptual-motor Disabilities,
- Spatial Awareness and Orientation Disabilities,
- Verbal Expression Disabilities,
- Attending Disabilities,
- Reasoning/Strategy Acquisition.

Following the assessment, the teacher, parents, and other specialists can meet to discuss the needs of the individual child, the program suggestions that best meet these needs, and the placement options available to facilitate the program's implementation.

Intervention

Introduction

Once a detailed assessment of a learning disabled student's performance has been completed and analyzed, instructional goals and objectives can be set. The teacher and others must now consider appropriate programs, approaches, methodologies, and materials that meet the needs of the individual student.

There is no one way to teach mathematics. The effective teacher will utilize several approaches depending on the student's unique learning style, the task, and the situation. Whatever the approach, the mathematical instruction must be geared toward the development of computational skills, mathematical understanding, logical thinking, and problem-solving. Such a program involves the active participation of the student, teacher, and parent(s).

Areas Involved in Mathematical Programming

Mathematics curricula deal almost exclusively with presenting computational and numerical/reading comprehension problems to students. In effect, they are divided into two main areas:

1. **An Operational Domain** - This domain refers to knowing the basic facts of addition, subtraction, multiplication, and division. In addition, it includes a knowledge of how to combine these various basic skills to add with regrouping, calculate long division, and so on (Algorithms).
2. **The Conceptual Domain** - This domain first assumes that students can read and understand the text, choose the relevant information, and then recognize which skills and processes they need to solve this particular problem. It further assumes that once students choose the correct arithmetical operation or operations involved, they can complete these calculations and make judgements as to the correctness of the answer.

These two main areas (basic skills and problem-solving) take up the major portion of most mathematical textbooks. In addition, the areas of measurement, time, and money

are included in most standard programs because of their application to everyday living.

Programming Approaches

Introduction

As previously mentioned, the effective teacher uses more than one approach to teach mathematics. A basic mathematics curriculum is usually used within the school system, and instructional procedures are adjusted to meet individual strengths and weaknesses. Regardless of the main approach employed, consideration must be given to developing both basic skills and problem-solving strategies so that one strength is not emphasized to the detriment of other areas. Examples of programs that can be integrated into the regular mathematics curriculum follow.

Metacognitive Approach

Mathematical weaknesses persist beyond the elementary grades and become conceptually more difficult. They also rely more on reading of word problems and instructions. The learning disabled student must not only understand mathematical operations but also understand which operations are to be performed and in what order. However, although many learning disabled students can perform computational operations, they lack a conceptual understanding of underlying mathematical principles necessary for problem-solving.

Alley and Deshler (1979) noted that learning disabled students often lacked in learning strategies rather than the basic ability to learn. As well, the strategies they employed were inefficient. Therefore, an important goal for teachers is to help the student employ more efficient metacognitive strategies by giving the student cognitive training. Much of cognitive training is built on Flavell's (1976) notion of metacognition — "knowing how to go about learning and desiring to do so." Flavell's notions relate to learning disabled students because when these students are taught to use their cognitive abilities more efficiently, they often learn more intelligently (Smith, 1983). Learning strategies programs, as proposed by Alley and Deshler (1979),

assume that it is possible to teach individuals strategies that will allow them to cope more effectively with the social and academic demands of the school curriculum.

Learning strategies are most effective when self-generated. However, when the student doesn't self-generate these approaches, they need to be taught. Early adolescents appear to be developmentally mature enough to profit from and apply such instruction. As well, such instruction can be introduced in the elementary grades.

Alley and Deshler (1979) advocate a modified and extended problem-solving procedure. Using this model, the learning disabled student can acquire a generalized cognitive strategy that can be used in solving word problems as they are presented at all levels of mathematics. The procedure involves ten steps:

- Step 1:** The student is made aware of a clearly defined problem. The teacher reads the problem orally, and uses questions to make the students aware of relevant and irrelevant information provided in the problem.
- Step 2:** The student then sets a goal to solve the problem.
- Step 3:** The student underlines the words in the problem that can be translated into quantitative terms.
- Step 4:** The formula, law, rule, or algorithm is identified from a group of alternatives appropriate to the quantitative terms identified in Step 3.
- Step 5:** The student then transforms the terms of the law into their numerical values.
- Step 6:** The number sentences are written by the student.
- Step 7:** The mathematical operations are selected by the student.
- Step 8:** The calculations are performed.
- Step 9:** The solutions are obtained in quantitative mathematical language.
- Step 10:** The quantitative solution is translated into the semantic context of the word problem. Hence, the student's goal has been realized.

An example of the application of this cognitive learning strategy to a word problem follows:

Problem Given:

A train going east was overtaken in six hours by one leaving the same place two hours later and travelling sixteen miles per hour faster. Find the rate of each (Stone and Mallory, 1936, pp. 228).

Step 1: The problem is read by the teacher or a student. Teacher asks questions such as:

How many trains involved? (2)
How many hours was the first one travelling? (6)
How many hours was the second train travelling? (4)
How do we know these times?
Which train was travelling faster? (second)
Are they going the same distance? (yes)
How much faster was it travelling? (16 mph)
What do we need to know to answer this problem?
Is all the necessary information given?
What must we find out first?
What's next?

Step 2: Teacher builds confidence in the student with a statement such as "You know what you have to do, I believe you can solve this problem. Are you ready to do it?"

In addition, the student makes up his mind that he is going to solve this problem. He realizes he must establish a goal, utilize his experiences, know the process involved, and plan to regulate and monitor these processes to solve this problem.

Step 3: Important quantitative terms are *distance*, *time*, *rate*, and *east*. The student must determine by logic which of the four words are relevant to solving the problem.

Step 4: The word *east* is eliminated and the student establishes that the law $D = rt$ contains all the relevant quantifiable words. Distance (D) = rate (r) \times time (t).

Step 5: The student orders the rule terms by the formula element and by the number of trains.

Train 1 --- $D_1 = r_1 t_1$ Train 2 --- $D_2 = r_2 t_2$
 $D_1 = D_2$ $r_2 = r_1 + 16$ $t_1 = 6$ $t_2 = 4$

Step 6: Number sentences are generated for each train.

$D_1 = r_1 6$
 $D_2 = (r_1 + 16)4$

Step 7 and 8: The student selects the necessary mathematical operation and performs the calculations. The student must isolate the response required to solve the word problem. In this case, the response to be isolated is the rate of the two trains. Calculations:

$D_1 = r_1 6$ $D_2 = (r_1 + 16)4$
Since $D_1 = D_2$ it follows that:
 $r_1 6 = (r_1 + 16)4$
 $6r_1 = 4r_1 + 64$
 $6r_1 - 4r_1 = 4r_1 - 4r_1 + 64$
 $2r_1 = 64$
 $r_1 = 32$

Step 9: To find the rate for the second train (r_2) the student retrieves the information from Step 5: $r_2 = r_1 + 16$, and substitutes the solution for r_1 to solve for r_2 .

$r_2 = 32 + 16$
 $r_2 = 48$ - the quantitative solution.

Step 10: The student transforms the quantitative solution back into the original semantic language: "The rate of the first train is 32 mph and the rate of the second train is 48 mph."

Clinical Mathematics Interview Approach

The Clinical Mathematics Interview (CMI) recognizes the interrelationship of content, behaviors, and psychological learning products. CMI is used as a diagnostic procedure that integrates (1) the content of the curriculum, (2) the modes of instruction, and (3) the algorithm or rule the student selects when attempting to solve the problem. Here is how the process works...

1. Present the student with a relevant computation test.
2. After completion, the teacher scores the items and sorts them into two sets: correct and incorrect.
3. The teacher asks students about their algorithmic search when they have not solved the problem correctly to find out the student's strategies.
4. The next day the problem is presented using an alternate mode (i.e., manipulative objects, or visual presentation).
5. The student then solves the problem using an alternate mode.

CMI is a functional and structured application of task analysis. Alley and Deshler (1979) advocate this process for solving both computation and word problems because it makes use of the student's learning strategies both in the teaching presentation (input), and in the required student responses (output). The emphasis is on the conceptual aspects of mathematics.

Banded Approach

The Banded Approach (Brant, 1972) has been suggested for learning disabled secondary students who require structure because of their limited attention spans. It consists of twelve daily lessons broken into three bands each.

Band I is a short activity period of five to ten minutes. During this band, students either review previously attained objective (competencies) for maintenance, or generalization, or engage in motivational activities in preparation for Band II. The activity of Band I does not have to be directly related to the instruction provided in Band II.

Band II is the fulcrum of this approach. During this twenty to twenty-five minute period, new concepts are presented to students. Students practice using the concept, and time is allotted for informal assessment to determine if students have learned the concept. Twenty to twenty-five minutes of sustained instruction is felt to be the maximum period for students enrolled in basic education programs.

Band III time, from five to ten minutes, can be used in two ways. One way is to involve all students in group problem-solving. An alternative is to permit students to select individual problem-solving activities that suit their own interests. Many mathematics laboratory activities can occupy students during Band III time (Brant, 1972).

The banded approach considers the nature of the task, the number of objectives, and the characteristics of the student. The major disadvantage is that the continuity of daily sessions suffers when students are involved in different activities.

Self-Instructional Training

This approach is sometimes referred to as Cognitive Behavior Modification (CBM). The procedure includes five stages that incorporate modelling, self-administration of reinforcement, feedback, and coping components of computation. Self-instructional training occurs in the following sequence.

- Stage 1:** The teacher computes the problem using overt self-instruction. This stage provides the student with a model for self-instruction and computation.
- Stage 2:** The teacher and the student compute the problem together using overt self-instruction. This allows the teacher to guide the student through computation with self-instruction while ensuring correspondence between the two.
- Stage 3:** The student computes the problem using overt self-instruction. The teacher now has the opportunity to monitor the student's independent use of self-instruction as a guide for computation.

Stage 4: The student computes the problem using whispered self-instruction. The teacher can continue monitoring while reducing self-instruction to the covert level.

Stage 5: The student computes the problem using covert self-instruction. (See chapter on general teaching approaches, as well as the Spelling and Reading chapters, for additional information on CBM.)

Use of Technology

Technology is useful in teaching mathematics in both **Operational** and **Conceptual** Domains. In the Operational Domain, calculators can compensate for basic fact deficits. In using calculators, particular attention must be paid to learning estimation skills, so that routine errors can be detected. This compensatory use can allow time for teaching mathematical thinking. Many software programs for micro-computers are available. They can focus on the entire range of mathematical skills from basic facts through problem-solving. Programs must be carefully chosen for adolescents with continuing difficulties, however, as some programs may appear childish and be more suitable for younger children. Software programs are self-checking and many allow students the opportunity to record scores and chart their own progress. Math games for the computer are fun and highly motivating. Many of these games encourage hand-eye coordination as well as mathematical skills. This may frustrate some students and, hence, all programs require pre-viewing by the teacher.

In the Conceptual Domain, some software packages dealing with problem-solving are helpful. Students can also be taught to write simple programs in BASIC for the computer. This is a cognitive process approach to teaching with the computer, rather than using it only for its software packages.

Students can learn to flow-chart problems, sequence steps to a solution, and write simple programs from their flowcharts. Many clearly written books for children exist on how to program. Computer programming helps students understand the processes behind much of what the computer does, but this knowledge can also be transferred to problem-solving in other contexts. Teachers should aid this transfer explicitly.

Programming Suggestions for Specific Disabilities

Although most teachers adhere to the prescribed mathematical program and try different teaching approaches, they also are expected to consider the unique strengths and weaknesses of individual students. This is no easy task. Both the student's strengths and weaknesses need special consideration. In addition, the teacher should always attempt to develop the student's understanding of what is being taught. Examples of some techniques to be considered by the teacher when planning instruction for various disabilities are as follows:

Memory Disabilities

The learning disabled student must be able to recall on demand bits of information perceived or learned previously. To improve memory skills:

1. provide progressively demanding practice in recalling numbers, names, and labels;
2. present material and progressively increase in small increments the student's time before the student is asked for recall;
3. provide for oral and written practice of mathematical concepts;
4. provide exercises in grouping mathematical material for ease of memory;
5. involve verbal and motor activities to increase confidence in remembering and using mathematics vocabulary;
6. use games that will involve practice in remembering and identifying mathematical labels and terminology; and
7. help the student develop strategies for recalling rules and applying them in problem-solving situations.

If the learning disabled student has a strong memory, it can be utilized in performing computational operations as well as in remembering learning strategies and algorithms.

Visual and Auditory Discrimination Disabilities

The learning disabled student must know when two separate auditory and visual stimuli or patterns are the same or different. Here are some suggestions for improving this skill:

1. use a computer program designed to give practice in auditory and visual discrimination in mathematical operations;
2. present an array of mathematical numbers or terms visually or orally which do or do not match a designated model (i.e., 1324 - orally "one thousand three hundred and twenty-four," visually - diagram showing 1 thousand, 3 hundreds, 2 tens, 4 ones);
3. other practice in discriminating whether the properties of a mathematical concept are the same or different;
4. compare problems to see if they require the same operation; and
5. verbally compare mathematics problems.

Strength in visual and/or auditory discrimination can assist the teacher in matching the manner in which his or her mode of presentation of new materials are presented with the learning disabled student's learning style.

Visual and Auditory Association Disabilities

This refers to the learning disabled students' ability to relate separately perceived visual or auditorial stimuli to each other. Intervention techniques include:

1. practice in associating numerical concepts presented through different forms and contents;
2. practice in grouping objects that have only one common property;
3. practice in associating mathematical vocabulary with symbols and operations;
4. practice with games and computer programs in recognizing similarities based on common operations rather than specific form
$$(452 \times 46 \text{ is the same as } \begin{array}{r} 452 \\ \times 46 \end{array});$$
5. the use of self-instructional training to provide an auditory association with the visual mathematics problem; and
6. presenting problems and asking for the associated rules.

Auditory and/or visual association strengths can also be utilized by teachers in their presentations. In addition, learning disabled students possessing such a strength can be taught learning strategies that use this strength to form generalizations applicable to other areas.

Perceptual-Motor Disabilities

This refers to the inability to perform specific eye-motor behaviors, or relate visual stimuli to motor responses, or motor cues to visual stimuli. There are activities that lessen this deficit:

1. provide alternative ways to complete work (typewriter, tape recorder, computer);
2. avoid long copying assignments in mathematics;
3. present clear, uncluttered written material, with adequate space for response in mathematical operations;
4. provide practice in eye-motor skills especially through mathematics computer activities;
5. provide concrete illustrations of mathematical concepts that the student can manipulate;
6. provide practice in using fine-motor behaviors relevant to reading and writing mathematical problems.

Learning disabled students who do not experience perceptual motor difficulties should be able to copy and order concepts more logically. Such a strength allows the teachers to sequence and present information as well as provide manipulation experiences that are beneficial to the student.

Spatial Awareness and Orientation Disabilities

Spatial awareness is the ability to recognize or adequately use temporal or spatial relationships between objects. There are a number of remedial techniques for disabilities in this area:

1. develop an awareness of spatial or positional orientations in numbers;
2. provide practice in recognizing and responding to spatial relationship vocabulary (i.e., inside, outside, above, below);

3. provide practice requiring the spatial manipulation of computational operations (i.e., change to proper equation $672; 964; -; =$);
4. practice problems related to measurement and spatial orientation;
5. provide written and verbal practice in mathematical rules involving symmetry, congruence, shape, and order;
6. have students draw shapes and pictures, on graph paper. Then they can transfer these pictures to the computer screen, through the graphics mode. Students learn to discriminate horizontal and vertical axes, and to move the image in their heads, from the page to the screen. They can compare the page with the screen, and identify errors in shape.

A relative strength in spatial awareness allows learning disabled students to visualize information in its correct form more easily. It usually assists students to distinguish parts from wholes. A teacher can capitalize on such a strength by presenting concepts visually and pointing out similarities and differences.

Verbal Expression Disabilities

Verbal expression refers to the ability to communicate information to others (either by speaking or writing). There are a number of ways to improve verbal expression skills in the area of mathematics:

1. practice using the verbal labels for number and mathematical operations;
2. provide practice in verbalizing the processes involved in mathematics;
3. present opportunities for group discussion of word problems;
4. ask the student to verbalize the steps involved in words or computational problems and the reasoning behind such steps;
5. provide practice in overt problem-solving and strategy planning.

Verbal expression skills are an asset to learning disabled students, and when encouraged appropriately, can be used in the learning process. However, the teacher must be attentive, as good verbal expression skills can sometimes be mistaken for total understanding. The teacher can apply this

student strength by using the self-instructional approach and/or learning strategies approaches. Such students can be taught to verbally cue, monitor, and check their responses.

Attending Disabilities

This refers to the inability to keep sustained attention on a problem over a space of several minutes. There are a number of ways to improve attending skills:

1. provide a physical environment that is organized and free of unnecessary distractions;
2. allowing students to work in private areas away from distractions when completing mathematical equations;
3. base instruction on a careful plan that is focused on learning one specific mathematics objective to be learned;
4. eliminate irrelevant details and concentrate on essentials;
5. provide reinforcements for gradual increases in time focused on mathematics tasks.

Having the ability to attend to instruction enhances the likelihood that learning disabled students will profit from appropriate instruction. The teacher can use the students' attending skills by presenting information in a mode that capitalizes on the students' strengths and weaknesses. In addition, good attention skills allow materials to be presented in a logical sequence and increase the chances of information being retained.

Programming Suggestions for Specific Areas of Mathematics

Listed on the following page are possible activities that may be used in facilitating learning of specific mathematical concepts.

1. Beginning Mathematical Concepts (i.e., up-down, first-last, matching)

- a. Present concrete objects or pictures for comparison.
- b. Interact with students to obtain their perceptions of the concepts presented. Faulty perceptions can be dealt with immediately.
- c. Provide opportunities for students to discover concepts on their own.

2. Number Concepts (i.e., recognizing numerals and understanding what they represent)

- a. Manipulate concrete objects to associate the written symbols and oral names of numbers with sets of objects.
- b. Give practice so that students can generalize number concepts to develop a greater understanding of the number system and its uses.
- c. Provide exercises where students sort objects to develop a sense of number sequence.
- d. Encourage mental visualization of number symbols and sets alone and in a sequence.
- e. Orally practice reciting number patterns - i.e., counting in 2's, 5's, etc. (for the students with auditory strengths).
- f. Try to make number concepts meaningful by pointing out everyday applications: game scores, prices, temperature.

3. Computational Skills (i.e., addition, subtraction, multiplication, division)

- a. Ensure that students have the prerequisite skills needed to understand the different mathematical operations.
- b. Have students verbalize the processes involved in the various operations.
- c. Present computational skills in the sequential order suggested by most teaching manuals.
- d. Present new mathematical operations in a variety of ways to meet individual student strengths (i.e., an oral presentation coupled with a visual display, and concrete materials to manipulate).
- e. Provide step-by-step outlines of how to complete different operations.

- f. Draw on content from other subject areas to illustrate the application of the various mathematical operations.
- g. Always allow time to listen to the students' perceptions of the mathematical task so that misconceptions are noticed and intervention begun immediately.

4. Problem Solving

- a. Sequence problems by difficulty levels to ensure mastery of one level before attempting another level.
- b. Read problems orally for students with reading difficulties.
- c. Present problems orally, visually, and in written format in various subject areas to develop the students' independent thinking skills.
- d. Interact with students and get their perceptions of what the problem is asking and what operation(s) need to be performed to reach a solution.
- e. Demonstrate and teach strategies to be used in problem-solving (the programming section of this chapter provides strategy approaches).

5. Time

- a. Use time sequences to create displays.
- b. Sequence daily events by their appropriate time.
- c. Display a calendar.
- d. Use a digital clock to time sports events or other practical activities.

6. Money

- a. Sort coins to develop an understanding of the relationship between numbers and money.
- b. Set up a class store.
- c. Demonstrate banking procedures.
- d. Teach money management techniques.
- e. Generalize money concepts to computational facts and word problems.

7. Measurement

- a. Explore and talk about basic measurement functions.
- b. Compare and contrast, sizes and weights orally and visually.
- c. Use the body as an example: measure height, weight, foot length, etc.
- d. Discover ways to measure irregular objects.

Parental Involvement

Parents also are involved in the remediation of the learning disabled child's mathematical difficulties. Parents can assist the programming process by:

1. bridging activities in the home with those being taught in school;
2. emphasizing and encouraging completion of homework;
3. helping the learning disabled student generalize and apply mathematical skills to everyday occurrences (i.e., telling time, measurement);
4. providing opportunities to practice mathematical concepts;
5. maintaining communication with the teachers so they can coordinate their efforts to help the student;
6. interacting with their children to improve their ability to express mathematical concepts verbally;
7. appreciating the student's efforts in mathematics;
8. facilitating the development of his or her areas of strength in mathematics;
9. providing encouragement, support, and understanding to build the student's confidence in his or her mathematical abilities.

Intervention Summary

The intent of the intervention section was to provide teachers with instructional approaches, specific techniques, and recommended materials which may assist them in teaching mathematics to learning disabled students. The various approaches are intended for use in conjunction with the mainstream mathematics curriculum. In addition, these approaches facilitate the application and integration of mathematical concepts into other content areas.

The approaches and techniques given noted the importance of keeping the cognitive aspects of mathematics in mind when dealing with learning disabled students. Mathematics is not a rote operational task but one that involves interactive thinking and conceptualization on the part of the student at all times. With this

in mind, specific techniques were presented to increment learning in clearly defined areas. Hopefully, teachers aware of the vast interactive skills involved in mathematics performance will provide ways of overcoming some of the learning disabled student's deficits. The teacher is encouraged to search out additional resources.

Summary

This section:

1. notes the need to consider all aspects of the learning disabled students' development when planning a suitable mathematics program,
2. focuses on a variety of difficulties that learning disabled students encounter that affect their performance in the area of mathematics,
3. emphasizes the need to consider the conceptual aspects of mathematics as well as the operational,
4. stresses the importance of appropriate assessment to ensure that difficulties are remediated as quickly as possible,
5. provides teachers with programming options that can be used within the regular curriculum,
6. points out that students, teachers, and parents are involved in improving deficit areas in mathematics,
7. stresses the need for teachers to develop the learning disabled students' cognitive abilities and the student's perception of self,
8. stresses the need for teachers to adjust their teaching style to account for the strengths and weaknesses of individual learning disabled students,
9. notes that successful performance in mathematics involves several factors which also influence performance in other content areas.

Chapter IV

Part 7

Social Skills

It is recommended that the reader consult with the guidance counsellor, principal, and parent in addressing social skills issues in the classroom. The Alberta Education health curriculum provides a number of suggestions for the classroom teacher on this topic. Also, it is recommended that the classroom teacher obtain information on local board policies that govern the nature of materials and interventions used in the classroom.

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Chapter IV: Part 7

Social Skills

Objectives

The purpose of this section is to:

1. note social characteristics of learning disabled students in relation to self-concept,
2. note social characteristics of learning disabled students in relation to cognition and behavior,
3. note social characteristics of learning disabled students in relation to communication,
4. provide reasons for developing the social skills of learning disabled students,
5. provide the teacher with examples of formal and informal measuring devices to assist social skill assessment,
6. provide recommended resources on assessment for the teacher,
7. provide a list of skills required for social competence,
8. provide intervention techniques for enhancing social skill development,
9. provide important considerations for the teacher involved in assessing and remediating social skills,
10. provide resources for the teacher on social skills intervention,
11. recommend the aid of the school guidance counsellor.

Introduction

This chapter focuses on methods of assessment and intervention for social skills. The fundamental assumption of this chapter is that many learning disabled children experience interpersonal difficulties, and that social skill development should be integrated into the education of these children.

There are many factors that influence the social performance of learning disabled students. This chapter identifies those factors and provides suggestions on how a teacher can address this area in the classroom. The primary goal of the teacher should be to maximize the student's potential for successful social interactions.

It is believed that learning disabled students may experience interpersonal difficulties in their interactions with parents, teachers, and peers. Furthermore, some researchers suggest that learning disabled students run the risk of social neglect and/or rejection. How others respond to a student's communication, behavior, appearance, and performance influences his or her self-perception and how he or she responds to others. Negative experiences may interfere with the development of communication skills, social skills, and academic potential, and adversely affect psychological growth. When learning disabled students behave inappropriately, their peers, parents, and teachers react in a number of ways: they'll use evasion, they'll redirect the conversation elsewhere, they'll humor the student, or they'll under-react. Kronick (1976) has noted

that this kind of interaction, which forestalls natural social consequences to socially inappropriate behavior, affects the student in a variety of ways.

1. The learning disabled student who has an unclear image of self receives less-than-truthful or ambiguous feedback.
2. The learning disabled student who may have difficulty perceiving and assessing the effect of his or her actions receives distorted information on the relationship between effects and ideas.
3. The learning disabled student who has trouble perceiving the situational gestalt, or individual and group images, and who is too concrete to reconcile ambiguity, receives an ambiguous message concerning the (social) situation or group (interaction) image.
4. The learning disabled student may lack the perceptual ability to perceive messages. Consequently, this may be one of the reasons why communication is unclear, shallow, and lacks appropriate effect.
5. Some learning disabled students often have younger playmates due to their uncertain relationship and status with peers. Others may choose older peers.
6. Learning disabled students will sometimes appear aggressive in social situations.
7. Learning disabled students will often give up easily in social enterprises and get upset easily as well.

Social Cognition and Behavior: Social Competence

Cognition refers to the intellectual functioning of the human mind and is characterized by remembering, comprehending, focusing attention, and processing information. Many studies have examined the relationship between these characteristics and the social performance of learning disabled students. Many researchers consider learning disabled students to be more susceptible to social misperception than non-disabled students.

In the area of social competence some learning disabled students:

1. tend to be poor at judging moods and attitudes of people;
2. regularly do or say the same inappropriate things;
3. often misinterpret the motives, intentions, and feelings of others;
4. have difficulty in interpreting social situations;
5. have difficulty identifying with and understanding the position of others;
6. tend to be less accurate than non-disabled peers in interpreting non-verbal communication;
7. often appear unmotivated and ambivalent about social functions;
8. may persevere, such as repeating statements or actions over and over again; and
9. often appear careless in social situations, due to lack of social understanding.

Social Competence and Communication

Communication is related to social interaction and involves rules governing the use of language in a social context. To use these rules requires an integration of linguistic, cognitive, and social knowledge. The literature on the social interaction of learning disabled students suggests that they may have difficulty with this type of integration due to deficient and/or inefficient knowledge and strategies. Some learning disabled students:

1. send out messages to others that they do not wish to convey;
2. tend to be less expressive and less descriptive in social conversation;
3. tend to be less persuasive and more likely to agree and less likely to argue in conversation;
4. can be more negative towards others than non-disabled children during conversation;
5. rely heavily on non-verbal behaviors while communicating;
6. tend to be less successful in roles as both speaker and listener;

7. have less decentering ability (are less able to take the perspective of one's communication partner);
8. show difficulty adjusting to the different needs of listeners;
9. have difficulty sometimes providing sufficient information for communication to be properly shared and understood;
10. have difficulty initiating and maintaining a dialogue between and among partners over several conversational turns;
11. have difficulty repairing communication breakdowns;
12. appear to have insufficient and/or deficient strategies, plans, or skills for sustaining interactions;
13. tend to ask fewer questions than non-disabled children when conversing with their peers;
14. tend to provide less elaborate responses to their partners' questions during conversation;
15. tend to monitor their conversation less than non-disabled children;
16. are less likely to request clarification of inadequate messages than non-disabled children;
17. appear to have difficulty conforming to the underlying rules of social discourse;
18. appear to have difficulty integrating the basic linguistic, social, and cognitive skills necessary for successful communication (e.g., difficulty in relating a story consequence);
19. are less likely to be recipients of considerate statements than non-disabled students during conversation with others.

While many learning disabled students experience difficulties in interpersonal relationships, it must be remembered that not all learning disabled students have interpersonal difficulties. Additionally, among those children who do exhibit problems the reasons may be different for each student. Therefore, in order to provide appropriate intervention the reasons or factors contributing to the students' particular difficulties need to be systematically explored.

Importance of Developing the Social Skills of Learning Disabled Children

1. Social skills are crucial for becoming integrated into a peer group.
2. Failure to develop social skills may deleteriously affect adult social relations.
3. Harmonious relationships with others promote self-identification and autonomy.
4. Successful interaction develops a sense of self-competence and self-confidence.
5. Accomplished skills in social activities may heighten performance in school-oriented, cognitive, and psychomotor activities.
6. Social interaction develops self-perception and can affect self-esteem and self-concept.
7. Positive social interactions encourage active involvement and independence.
8. Social skills are essential in obtaining and maintaining employment.

Teacher Assessment of Social Skills

Assessment is important in understanding the students' needs, and in measuring the effectiveness of remediation programs. Teachers must be aware of why problem behaviors exist. For example, do the students understand what behavior is expected of them? Is misbehavior due to anxiety, or is there a lack of reinforcement in the environment? Social skills/behavior assessments tend to lack validity and reliability. The accuracy of such assessments can be enhanced by using several measures rather than only one. Cartledge and Milburn (1980) have an excellent chapter on assessment and evaluation of social skills which elaborates on some of the methods and suggestions that follow:

It is recommended that teachers use both formal and informal measures to assess social competence.

Formal Assessments

Behavior Checklist. Behavior checklists are usually administered by teachers and/or parents. When they are done by both, a comparison of responses can result in more understanding of how a child functions in a variety of settings. Checklists and rating scales are very efficient, but not totally reliable or valid.

The general areas of behavior that are important to examine within the classroom are (Marsh et al., 1983):

- a. Measure of acceptable or unacceptable behavior,
- b. Interpersonal interactions,
- c. Work habits,
- d. Attitudes.

The following instruments are primarily used for assessment of classroom behavior of the student.

Tests	Characteristics
Walker Problem Behavior Identification Checklist (WPBIC-1979)	Grades; 4 to 6 Purpose: This checklist was designed for use by teachers and can be used as a screening tool to isolate problem areas for further assessment and remediation. It provides a pupil profile according to acting out, withdrawal, distractibility, disturbed peer relations, and immaturity.
Burks Behavior Rating Scales	Grades: 1 to 9 Purpose: It was developed for use by teachers and parents. It rates children on 110 items in 19 categories such as self-blame, poor anger control, and excessive anxiety.
The Behavior Rating Profile (Hammill, 1984)	Grades: Primarily elementary but can also be adapted for the adolescent. Purpose: It examines the home, school, and interpersonal environments of the student from the perspective of that student and his or her parents, teachers, and peers.

Informal Assessments

1. **Teacher Constructed Scales.** Sometimes the teacher wants to examine one particular aspect of a student's interpersonal skills. Hence, a criterion-referenced procedure that investigates how a child performs a particular skill is more useful than comparing a child to a norm.

Cartledge and Milburn (1981) provide some specific criterion-referenced scales that might be used or, the teacher could easily construct his or her own. For example, the teacher could set up a scale of 1 to 5 with 1 indicating the child demonstrates little skill in a particular behavior to 5 indicating a high skill. Statements such as: makes eye contact, helps others, is polite, reinforces others positively, etc., could be then set up in a

scale and the degree of behavior engaged in, checked off. This data could then be used directly in teaching those skills not being demonstrated.

2. **Teacher-Made Checklists for Measuring Problems in Social and Emotional Development.** The teacher can make up an informal checklist to assist in determining problems and to become more aware of individual student behavior.

Weiderholt, Hammill, and Brown (1978) provide examples of measures one can use. The behaviors to observe would include those related to self-concept (such as easily frustrated, reacts negatively to being corrected, and degree of self-criticism), social interaction, relationship with adults including the teacher, academic behavior (attending, peer interaction, degree of flexibility).

3. Self-Reports. This technique requires students to assess their social competence using the Children's Assertive Behavior Scale (CABS) (Wood and Nicholson, 1978). Example: Someone says to you, "I think you are very bright." You would usually say:

- a. "No, I'm not very bright." (Very passive)
- b. "Yes, I think I am quite bright." (Very aggressive)
- c. "I appreciate that." (Assertive)
- d. Blush. (Passive)
- e. "I appreciate that I am quite bright." (Aggressive)

Self-report measures dealing with self-concept attempt to ascertain the child's feelings of self-worth, acceptance, and success. Below is an example similar to those found in the Self-Esteem Inventory (Coopersmith, 1967) for children between the ages of 8-10.

The student is asked to indicate whether the statement is or is not like him or her (e.g., I feel very confident about myself, I would like to be like my friend rather than as I am).

Interviews

Interviewing students is an informal way of gaining more information about their social skills and social/emotional adjustment. Some guidelines for the interviewer follow:

1. Open the interview by asking factual, non-threatening questions.
2. Locate major pieces of information through unstructured lead questions.
3. Make use of guide questions.
4. Make an effort to locate fruitful areas of conversation.
5. Use probes to obtain specific information.
6. Pursue fruitful areas once they are found.
7. Clarify unclear responses through further questioning.
8. Follow up areas where the respondent shows emotional involvement.
9. Redirect the interview to different topics when useful data are not emerging.
10. Be alert to sensitive subjects and handle them diplomatically.

11. Answer any direct questions posed by the respondent.

12. Complete the interview before the respondent becomes tired or bored.

The following is a partial list of interpersonal behavioral situations which can be used to explore the history of an adult's interpersonal response patterns. This list can also be adapted for children. The situations involve a number of abilities:

1. express opinions contrary to those of peers, parents, teacher;
2. ask favors of someone;
3. initiate conversations with peers and adults;
4. refuse unreasonable requests from friends and strangers;
5. invite a peer to play;
6. compliment someone;
7. receive compliments;
8. ask for help in solving problems;
9. resist pressure from peers to behave in an unacceptable way.

Audio-Visual Assessment and Intervention

When a teacher wants to assess the behaviors of more than one student, audio and video tapes can be used to assess children's social skill. They can also be used as a vehicle to demonstrate to the child personal skill deficits. This can help the student to become aware of his or her own behavior and the effects of it on others. Taping can help review the effectiveness of programs when used before and after intervention.

Self-Monitoring

Teachers can train some children to observe and record their own behavior. Some steps for self-monitoring that could easily be employed even with young students could include:

1. discussing why it is important to keep a record and how such monitoring will be helpful;
2. identifying the behaviors to be observed;
3. selecting a means of recording;
4. showing how the recording can be graphed; and
5. role playing and rehearsing the procedure. (See section on Cognitive Approaches: Meichenbaum)

Assessing Reinforcers

Cartledge and Milburn (1980) suggest that positive social skills are more likely when a child expects a positive result for his or her behavior. The child is more apt to be involved with social skills training if he or she expects gratifying results.

An assessment of what is influencing behavior involves looking at what happens before and after a behavior occurs. When assessing situations for what promotes or inhibits a child's performance of appropriate social behaviors, a number of questions should be asked.

1. What is the rate of target behavior?
2. What events occur that appear to trigger the behavior?
3. When and under what circumstances does it occur?
4. Who is present?
5. What social responses follow the behavior?
6. What outcomes could the child perceive as a result of his or her behavior?

Stephens (1977) outlines a number of related techniques for assessing reward systems. These involve (a) interviews which attempt to delineate what rewards the child prefers (i.e., a star or having his/her work displayed in the classroom), (b) a questionnaire in which the child indicates his or her preference among activities, (c) a contrived task approach in which the teacher provides a variety of reinforcers for performance on an easy task (i.e., verbal praise), and (d) evaluations of enthusiasm and effort under a variety of rewarding situations.

Assessing the Adolescent

For the adolescent, there are very few comprehensive measures of social skills available (Alley and Deshler, 1979). However, the suggestions that have been made previously can be adapted to older learning disabled children. Additionally, Alley and Deshler (1979) suggest that teachers constantly monitor students' progress and program choices while maintaining contact with school counsellors and administrators on the students' social and academic development. Two informal measures are recommended.

Examination of Cumulative Records	An informal measure of a learning disabled student's (particularly an adolescent's) academic and non-academic interests. Can also serve as an index for educational planning at the junior and high school levels.
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Assessment of Student's Contact with School Counsellors and Administrators	An informal way to determine specific social/emotional difficulties at all levels.
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Intervention

Skills Required for Social Competence

Social competence requires the following abilities:

- a. Ability in both speaker and listener roles.
- b. Ability to understand the affective and cognitive state of others.
- c. Ability in both expressive and receptive language.
- d. Capacity to understand verbal and non-verbal cues.
- e. Capacity to understand oneself and one's relationship to others.
- f. Capacity to problem-solve.
- g. Ability to understand and appropriately use rules of social discourse.
- h. Ability to secure affection and respect.
- i. Acquisition and maintenance of positive self-concept and sense of self-worth.
- j. Facilitation and procurement of successful social interaction.

Essentially, the needs of learning disabled children are as much social/emotional as academic. Any attempt to fulfill academic potential without recognizing the emotional-social influences is futile. As Smith (1981, page 180) states: "...the development of good social skills can be a goal that is difficult to attain. Regardless of the complexity it must be given its proper place within the instructional program." Some recommendations are as follows:

a. The teachers' use of **prescriptive teaching** in cognitive area enables learning disabled students to be made more aware of their strengths and weaknesses, to make more realistic evaluations about their competencies (see section on "Prescriptive Teaching" approach in Part 2 of this chapter), and enhance their self-esteem through competent performances on specific tasks. For example, a learning disabled student may state, "I can do well on listening assignments, but I am a poor organizer of my time." Prescriptive teaching provides teachers with evidence of student performance that confirms or denies student self-evaluation and provides effective feedback to the student on cognitive skill development. This method also limits the possibilities for poor communication between student and teacher. Once students are able to redirect their self-esteem related to academic tasks, their self-esteem in social interactions will be enhanced.

Lerner (1976) has developed a prescriptive teaching procedure. She calls the procedure the Clinical Teaching Cycle, and states that clinical teaching "...implies that the teacher is fully aware of the individual student's learning style, interest, shortcomings, and areas of strength, levels of development and tolerance in many feelings, and adjustments to the world" (page 106).

b. Use **directed writing activities**. Alley and Deshler (1979) suggest the use of a daily activities journal to develop students' awareness of their own strengths and weaknesses. They recommend that the teacher direct students to write about one daily instance of positive feelings or action and one instance of negative feelings or actions. The teacher reviews their written passages and provides supportive statements. The journals should be handed in once a week for monitoring of students' strengths, weaknesses, and self-esteem.

c. Use of **group projects**. Many motivating group projects can be used to teach students cooperation. Projects using technology, such as making a film using home film or video camera equipment, are frequently used. These activities allow

students to see the need for planning, sequencing, and organizing as well as for cooperation.

d. **Discussion sessions** can be used to help students gain a better understanding of their behavior and consequences of their behavior. Loughmiller (1971) offers guidelines for teachers conducting discussion sessions.

1. Distinguish between what can and cannot be discussed at the beginning of the discussion.
2. Determine when discussion methods of any kind are appropriate and inappropriate.
3. Determine a personal leadership style and emphasize your leadership strengths.

Loughmiller (1971) also provides suggestions for keeping discussion going.

1. Pose problems that are specific, concrete, and challenging, and as close as possible to the experiences of the group.
2. If there is strong disagreement among members, direct the confrontation to a noncommittal option without offering a judgemental opinion to the group. Clarify the similarities and differences among the options.
3. Summarize a group member's comment or suggestion if some group members do not understand the person's intent or reasoning. Ask if the summary accurately reflects the person's thoughts. The teacher can also synthesize several members' discussion points.
4. Be alert to subtle signs of interest from the more subdued members of the group. This is very difficult and takes a lot of practice, but if some members monopolize the session, those who are not participating will quickly lose interest.
5. Supplement the discussion sessions with resources. Films, experts, and field trips add immeasurable interest to the sessions.

6. Be sensitive to differences between silences that indicate the topic has been exhausted and those that mean the group members are attempting to develop new options. The best technique is simply to say, "Have we presented all the options and their differences for this topic?"

7. Tie-in the members' unrelated discussions to the topic being discussed. This seems appropriate in discussion groups of learning disabled students. Learning disabled students must reaffirm the topic at hand. The teacher may say, "Do you agree or disagree with Tom or Mary?" "Why?" This procedure makes the learning disabled student aware of the direction of the discussion and confirms that the student is providing irrelevant information or feelings for that situation.

Helping learning disabled students to develop a more positive self-esteem and to enhance their awareness of their social behavior is the responsibility of the teacher as well as the parent. Alley and Deshler (1979) suggest the following guidelines:

1. An ordered and structured classroom reduces student uncertainty and creates a feeling of control over one's environment. Order and structure in a classroom help students more readily identify variables and events to which they must react or over which they may exercise control. Rules that determine the nature of classroom and school operation should be formed by both staff and students. Once established, the rules should be consistently enforced and relaxed only when students demonstrate enough maturity to perform without them. Glasser (1969) maintains that reasonable rules are part of a thoughtful problem-solving education.
2. Recognition of student decision-making and problem-solving capabilities is important to learning disabled adolescents — both personally and socially. One of the frequently cited goals of secondary education in general, and special education in particular, is to teach students enough

skills so that they can function independently. Certainly all self-supporting adults have skills that they can apply independently. On the other hand, each individual undertakes a variety of tasks that demand the assistance of someone else. Successful adjustment to adult living requires both independent action and dependence on others in various situations. It is suggested that in today's world the wisest course of action is not complete independence or complete dependence, but rather interdependence. Interdependence is having the ability to determine when to be independent from others and when to move toward a position of collaboration with others.

Learning disabled adolescents should be encouraged to assess their abilities under present circumstances to determine if independent or dependent action is required. Determining when to be independent and when to be dependent requires skills, practice, and experience. These students should be given the opportunity to make such decisions regularly in school activities, and they should be taught to assess the consequences. For example, if the choice is dependence, they should decide who is the best person to ask and how to ask that person for help.

Both the teacher and the parent should strive to create a relationship which helps the child feel accepted and successful, and yet also encourages the child to operate independently.

3. Recognition that change is not easy. Most decisions and attempts to solve problems involve change on the part of the individual. Change is particularly difficult when it involves affective styles that are habits. Furthermore, when a person makes a change, it is accepted by some and resisted by others; this may cause internal conflict. Often, changes are determined by the expectations of others. Consequently, while the need for and direction of change may be intuitively logical, its implementation may be considerably more complex.

4. The basis for effective working relationships with others is understanding and meeting other people's needs, values and expectations, and communicating acceptance to the persons being helped. For a teacher to understand the unique needs, values, and expectations of each learning disabled adolescent requires careful observation and a high degree of sensitivity. The teacher's success in a helping relationship is largely a function of how well these unique factors are understood. Constructive action over time is based on the teacher's ability to communicate feelings of acceptance both verbally and non-verbally.

Developing Communication Skills

Communication skills can be encouraged in a number of ways.

1. Provide supportive verbal communication climates within the classroom.
2. Practice using and judging non-verbal communication with the students in the classroom.
3. Provide a supportive climate for learning disabled children within the classroom.
4. Develop a trusting environment, encourage self-disclosure of social problems, and involve the class in group problem-solving.
5. Provide knowledge, rules, guidance, and practice on the various aspects of social discourse.

Communication Exercises

Communication skills involve rules governing the use of language in a social context. Their use requires an integration of linguistic, cognitive, and social knowledge. A child must master the rules for effective communication in order to be successful in social interactions. The literature pertaining to the social interaction of learning disabled children suggest that they have difficulty relating to others which might be due to their deficient knowledge and/or inefficient use of rules. Spekman and Roth (1984) provide teachers with some suggestions for intervention strategies to be used with learning disabled children with communication difficulties.

For example (from Spekman and Roth, 1984): If the problem is a difficulty with requesting information, the teacher should then improvise a situation in which someone wants or needs information. Some activities for such a situation are listed below:

1. Present novel objects in the environment for which a child is likely to request a label (What is it?), information regarding function (What do you use it for?), operation (How do you make it work?), or construction (What is it made of?).
2. Play games such as 20 Questions, Clue, scavenger hunt, or group acquaintance games (find someone with your birthday, find someone who has the same number of brothers as you).
3. Conduct interviews with different people (e.g., principal, librarian, fireman) for different purposes (e.g., to learn about an occupation, to learn about interests, opinions, etc.), and in different communication modes (face-to-face, telephone, mail).
4. Send the child on errands to gather information about the price of a T-shirt, the lunch menu, the time of an assembly, etc.
5. Use activities and projects for which either no directions are given or in which directions are incomplete or ambiguous.
6. Use role playing situations (child goes to store or restaurant) with \$3.00. No prices are posted. Child is planning a trip and must gather information regarding schedule, fare, etc.

To encourage the learning disabled student to make decisions and solve problems the teacher must establish a proper atmosphere in the classroom.

Cognitive Programs for Learning Disabled Students in the Elementary Grades

Think Aloud Classroom Program

This program was designed to increase cognitive and social problem-solving skills. The program concentrates on developing an organized approach to problem-solving. The initial phase consists of four questions:

1. What is my problem?
2. What is my plan?
3. Am I using my plan?
4. How did I do?

The students ask themselves these questions to help organize their particular assignments. When applied to interpersonal problem-solving instruction, this approach might also be followed. (Camp and Bash, Think Aloud Group Manual, 1978.)

Resources for Intervention

1. Cartledge and Milburn (1980) have an excellent book that provides steps for teaching social skills and chapters dealing with teaching social skills to special populations.
2. Stephens (1977) offers a well developed social skills list that indicates what should be taught in schools. He provides the teacher with assessment procedures and teaching strategies in order to improve classroom social skills. He covers skills such as environmental behaviors (i.e., lunchroom behavior), interpersonal skills (making conversation, helping, and playing with others), self-related behaviors (asking/answering questions), task-related behaviors (following directions, completing tasks), and others.
3. Alley and Deshler (1979) provide a chapter entitled "Social Interaction: Strategies and Methods" which covers
 - a. the development of social skills,
 - b. social development of the learning disabled adolescent,
 - c. assessment of the social skills of learning disabled adolescents, and
 - d. teaching social skills to learning disabled adolescents.
4. Camp and Bash (1978) have written a teacher training manual for implementing a "Think Aloud" program within a classroom.
5. Spekman and Roth (1984) present intervention strategies for managing learning disabled children with oral communication problems. These strategies are based on a comprehensive organizational framework which is described and related to instructional activities.

Social Skills Training Programs

This section lists but a few of the many social skills training programs available. Consult with the principal, guidance counsellor, and health consultant regarding the use of the health curriculum, and the jurisdiction administration regarding other social skills programs. Some programs have not been found to be positive and others require specialist training. The jurisdiction may have a policy on some of these programs. Two examples include:

- a. DUSO Program
- b. A Social Skills Program for Adolescents (ASSET).

Rationale and Objectives of the DUSO Program

Don Dinkmeyer, professor of Educational Psychology and Counselling at De Paul University, produced the DUSO program. The rationale and objectives presented here are his (Dinkmeyer, 1970).

DUSO is designed to help the student become more aware of the relationship between himself or herself, other people, and his or her needs and goals. Through DUSO the student is helped to develop a sensitivity to the causal, purposive, and consequential nature of his or her behavior. As a student comes to perceive the purposes and goals of behavior, he or she is more likely to recognize the basis for faulty relationships with others.

Each student is confronted with a variety of developmental tasks and social expectations. The student approaches these expectations and tasks in terms of his or her own needs and desire to be significant. The student decides consciously or otherwise how he or she wishes to be known, and his or her behavior eventually becomes consistent with his or her concept of self. Essential to this concept of self are the basic understandings which the student develops about himself or herself and the world. It is the philosophy of the DUSO program that developmental tasks provide the goals for the classroom guidance process. The units revolve around eight developmental tasks which confront the individual in the process of his or her development. There are eight unit themes representing these tasks.

- I* - Understanding and Accepting Self
- II* - Understanding Feelings
- III* - Understanding Others
- IV* - Understanding Independence
- V* - Understanding Goals and Purposeful Behavior
- VI* - Understanding Mastery, Competence, and Resourcefulness
- VII* - Understanding Emotional Maturity
- VIII* - Understanding Choices and Consequences

The materials for the DUSO kit are contained in a metal carrying case. These materials include the manual, two story books, records or cassettes, posters, puppet activity cards, puppets, puppet props, role playing cards, and group discussion cards.

DUSO is structured so that teachers may use the program on a daily basis throughout a school year. On the other hand a teacher may select activities to fit the specific needs of his or her group.

The DUSO activities make extensive use of a listening, inquiry, experiential, and discussion approach to learning. The activities are quite varied, so the children's interest in the program is easily maintained.

A Social Skills Program for Adolescents (ASSET)

The ASSET program was developed by Hazel, Schumaker, Sherman, and Sheldon (1980). This social skills program provides a set of training procedures to help adolescents gain important skills in social interaction. It includes resources and methods of teaching the following eight social skills:

Skill	Objective
Giving Positive Feedback	To teach how to thank and how to compliment someone.
Giving Negative Feedback	To teach how to give feedback in a calm, non-threatening manner, to say one's own perception of the situation, to ask for the other person's perception, and to suggest changes.
Accepting Negative Feedback	To teach how to listen to criticism without getting angry.

Resisting Peer Pressure	To teach how to say no, to give a reason for not engaging in the activity, and to suggest alternate activities.
Problem-Solving	To teach how to think of a number of different possible solutions, to evaluate the good and bad results of each solution, to pick the most desirable results, and to choose the solution with those results.
Negotiation	To teach how to solve interpersonal conflicts in calm, appropriate ways without resorting to aggressive and abusive behavior.
Following Instructions	To teach how to acknowledge and carry out instructions to avoid conflicts.
Conversation	To teach how to introduce oneself and maintain a conversation.

The rationale for this program is that social skills can be achieved through a learning process and that adolescents can gain more responsibility and control over their lives by acquiring and improving social skills.

The program uses common basic teaching techniques: descriptions of specific behaviors to be learned and situations in which they are appropriate; rationale or reasons for learning the skills; modelling of the skills through video-tapes and rehearsal of the skills during group sessions; and feedback by participants. Transfer of learning to real-life situations is assisted by practising appropriate behaviors in a variety of different situations during role playing in the group, by some practice of the skills, and by reviews of some practices.

Information is included on how to start the group, how to teach the skills, how to lead the group, how to handle problem behavior, how to maintain the program, and how to end the program.

Conclusion

Generally, teachers and parents should become aware of the role they play in influencing a student's social status. It has been argued that the learning disabled student's failure to elicit positive responses from others does not necessarily reflect a deficit in social skills, but rather a failure to use the skills at the appropriate times. There has been a rising interest among educators in providing social skills training for learning disabled students. Some educators have used a group dynamic approach to facilitate social interaction, reinforce positive communication skills, and explore important content that relates to life. Others have restructured their classroom atmosphere so as to be conducive to positive social interaction between students. (Learning disabled peers are used to alter students' social behavior.) In a broader sense, teacher training programs have been restructured to focus more on the personality development of learning disabled students. The basis of this approach is that remediation programs will be more effective if educators are more aware of the emotional and social needs of their students.

Unfortunately, however, there is still no consistent and concerted effort to include the investigation of the emotional and social aspects of a learning disabled child's performance within a diagnostic assessment battery.

A few experts have tried to identify specific social skills students should possess. For example, giving positive and negative feedback, accepting negative feedback, resisting peer pressure, negotiation, and problem-solving in social situations are considered important. Research indicates that learning disabled students can be taught social skills and benefit from them. However, some children will need generalization training when learning social skills due to an inability of some learning disabled students to transfer their learned social skills to the natural environment.

Many researchers suggest that performance differences between learning disabled and average achieving students are due to a passive learning style and inefficient

problem-solving strategies. Hence, some social skills training approaches encourage a metacognitive approach, self-control, and self-mastery. Others suggest that being unmotivated is a common characteristic of learning disabled children (Smith, 1981). They emphasize the importance of increasing the motivation of learning disabled children when teaching social skills. Efforts to facilitate motivation include manipulation of extrinsics, attributional retraining, and personal causation training.

Teachers should be selective in choosing social skills programs for their students because of the various needs of the students and the situational constraints. However, emotional-social development should be integrated within the educational plan.

Teachers can create a positive environment, the kind of environment that will encourage happy, fully-functioning, self-actualizing people. Teachers can have a share in helping students achieve their potential.

Summary

This section:

1. identifies the major social characteristics of learning disabled students,
2. provides ways for the teacher to assess and remediate the social skills of students within the classroom,
3. stresses the need and importance of integrating academic and psycho-social programs to address the academic delays and interpersonal difficulties of learning disabled students,
4. suggests that there is no one panacea for the social experience and difficulties of learning disabled students. However, there is a very good chance, with the teacher's help, that the student will get much closer to appreciating and dealing with the intricacies of interpersonal relationships.

Chapter IV

Part 8

The Adolescent

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Chapter IV: Part 8

The Adolescent

Objectives

The purpose of this section is to:

- 1.note three myths surrounding the education of the learning disabled adolescent,
- 2.note some of the program alternatives for the learning disabled adolescent,
- 3.provide information on the characteristics of the learning disabled secondary student,
- 4.note the unique needs of the learning disabled secondary student along with some possible ways of meeting these needs,
- 5.stress the need for those involved with the learning disabled secondary student to develop learning-to-learn skills and, in teaching, to address the social/educational development of the adolescent.

Introduction

There are problems and approaches unique to the adolescent learning disabled student. While previous parts of this manual have provided some information useful to the teacher in working with this age level, this part will focus solely on the adolescent.

Ideas Militating Against Provision of Educational Services for Learning Disabled Students

There are a number of unsubstantiated myths surrounding the effectiveness of programs for the learning disabled adolescent. These must be addressed before intensive efforts in programming can occur.

Myth:

It has been generally accepted by the educational community that in order to effect educational change, the focus must be on the very young student, and that by the time the student reaches adolescence educational interventions are too late.

Response:

Research, however, is beginning to point out that educational interventions at this developmental stage may be as effective as early intervention for some students (Alley and Deshler, 1979).

Myth:

The basic problems of the learning disabled student evident in the elementary grades disappear upon reaching adolescence.

Response:

It is not that these problems no longer exist, but it is more likely that they now manifest themselves in subtle or controlled ways. The underlying deficits still remain.

Myth:

Learning disabled adolescents should be provided with a vocational oriented curricula since they will not be able to achieve enough academically to pursue university or other post-secondary academic programs.

Response:

There are some learning disabled students who can reach this level if specific programs are provided. Each student needs to be considered separately — involving all members of the educational team.

Compensatory techniques can be developed.

Program Alternatives

There are a variety of program options which have been implemented for the learning disabled adolescent. Deshler et al. (1984) review and critique four of the major approaches to intervention.

Tutorial Approach

This is probably the approach most frequently used with secondary level learning disabled students. This approach, like the basic skills remediation approach, which follows, is typified by the use of a resource room as the service delivery model. It is aimed at providing instruction in content which has not been mastered. This program alternative has been criticized as being only a short-term solution. There is little, if any, data evaluating the effectiveness of this program alternative.

Basic Skills Remediation

This alternative, similar to that above, utilizes a resource room and provides instruction in the basic academic skills (usually reading and/or mathematics) as opposed to content. Three problems with the basic skills remediation approach have been noted by Alley and Deshler (1979).

1. Many of the curriculum materials were developed for elementary level students and no data exists to determine which ones produce the most gains for learning disabled adolescents.
2. The gains made through this approach to instruction may not enable the students to cope independently with the secondary curricula.

3. The range of basic skills taught may be too restrictive. Further, basic skills at the secondary level are different from those at the elementary level.

Compensatory

This particular approach involves the use of a variety of different audio-visual approaches to assist learning disabled adolescents to “compensate” for their skill deficits. The types of programming alterations used here involve matching each student’s strongest learning modality with the method of instruction. Examples include the taping of lecture notes, orally presented tests, and rewriting reading material at a lower level.

Learning Strategies

Using learning strategies as interventions for secondary level students has been advocated by Deshler et al. (1984). This approach is not designed to teach particular areas of content but, rather, to use the learning disabled students’ existing academic skills in strategically acquiring new knowledge.

These students have often been categorized as lacking appropriate strategies for most tasks. They can be taught to use strategies. The programs for developing generic learning and thinking skills use the “Cognitive Education” approach discussed in Part 2 of this chapter. This particular approach to teaching learning disabled students at upper elementary and secondary levels in the regular and/or special classroom appears to hold much promise. However, the approach still requires validation.

Characteristics of Learning Disabled Adolescents

There is little good empirical research on the characteristics of learning disabled adolescents. In addition to the characteristics listed in chapter II of this manual, Smith (1983) has listed 28 other characteristics. Below are some of these characteristics:

1. general motor awkwardness
2. hyperactivity
3. high distractibility
4. perceptual confusion
5. persistent confusion
6. short attention span
7. an inflexible approach to decisions and judgements
8. inflexibility toward ideas and activities
9. difficulty anticipating the behavior of others
10. difficulty modifying behavior patterns
11. difficulty generalizing from experience
12. difficulty interpreting and using symbols
13. difficulty selecting from alternatives
14. poor development of logical reasoning and abstract thinking abilities
15. severe under-achievement
16. delinquency
17. feelings of inadequacy
18. frustration with self
19. passive or active aggression
20. quickly yields to pressure
21. secondary emotional problems

Deshler (1978) has summarized the general characteristics of the learning disabled adolescent into five major concerns: these include a lack of basic skills necessary for success in academic areas; a high likelihood of poor self-perception, and poor self-concept; significantly reduced motivation; and the problems of attention, hyperactivity, and uncoordination.

Characteristics of the Secondary School Learning Environment That May Increase Coping Difficulties

Two of the most important features of adolescence (i.e., independence and social skill emphasis) are two of the areas in which learning disabled students often have major difficulties. As emphasized in other chapters, learning disabled students often have difficulty in planning, organizing, generalizing, and monitoring their performance in a variety of situations. These are precisely the skills expected by the secondary teacher and by significant others in the general community. Social interaction skills also become critical to successful social, leisure time, and career activities. At the secondary school level it may be most fruitful to focus on the development of these two major areas and to incorporate basic academic career-vocational development.

The difference in expectations between elementary and secondary schools can produce significant problems (Mercer, 1983). At the elementary school level the student is expected to have gaps in basic knowledge and skills, but at the secondary level, it is expected that these have been mastered. In the elementary school, the student is expected to be somewhat dependent on adults for guidance, but at the secondary level independence is expected. The elementary level student is also expected to be a passive learner, but the secondary level student is expected to be an active learner who questions and seeks out information. It is because of these drastic differences in expectations that a learning disabled student who was able to cope in the elementary school years with minimal assistance may now be unable to cope at the secondary level. It is important to continue the cognitive/affective and process orientations at the secondary level as well as at the elementary level. There must also be a continuity of support for these children as they move through the school.

The secondary level program has a number of problems meeting the needs of the learning disabled student over and above the differences in expectations which occur as the student moves into the junior high school.

1. The teacher(s) work with approximately 100 to 150 students each day.
2. The teacher(s) usually are involved in teaching one content area rather than most content areas, as in elementary teaching, so they only see the student working in that one content area.

Despite the above, it is possible to meet the needs of individual learning disabled students within the mainstream classroom. All of the student's teachers should coordinate their programs with the assistance of specialist personnel where necessary and available (e.g., counsellor, reading specialist, psychologist. See the reading section for an example of an individualized approach at the secondary level). The school counsellor might best be able to coordinate the overall program for the student in conjunction with the teachers.

The following section is intended to assist the teacher(s) working with the learning disabled adolescent in the mainstream classroom. It is only suggested as a starting point for the teacher.

Important Considerations for Secondary Teachers of the Learning Disabled

1. The student's performance must be continually monitored.
 2. Motivation must be considered a most critical problem for the learning disabled adolescent.
 3. Tasks should be modified to circumvent problems of attention, concentration, and memory.
 4. If instructional strategies, curriculum, or the learning environment is modified, then all teachers should coordinate their efforts.
 5. Conducting interviews and structured observations in a variety of settings should be carried out to obtain information on motivational concerns.
 6. In selecting available textbooks the teacher should
 - a. use an informal reading inventory to determine student(s) reading level;
 - b. use a readability formula to determine difficulty level of text(s);
 - c. determine student's ability to use table of contents, glossary, and index;
 - d. use the cloze procedure to assist in determining comprehension level of text;
 - e. consider relevance to the student(s) life (interest level).
- The above procedure suggested by Smith (1983) can assist the teacher to select reading material: text difficulty should match student ability (see chapter on Reading for details of the above procedures). Where no adequate texts are available, compensatory approaches might be used (see section on Compensatory Program Alternatives).
7. The teacher(s) should focus on developing good listening skills to enhance the student's ability to focus attention and to remember.
 8. The teaching of thinking-learning strategies should be carried out in all areas of the curriculum.
 9. The development of social-emotional aspects of learning disabled students should have a specific focus (see part 7 of this chapter for more specific information).
 10. All instructional and specialist personnel should coordinate consistent efforts for working with the students across all curriculum areas.
 11. Teaching the generalization of strategies should be specifically built into all instructional areas (all significant others should reinforce strategies taught; e.g., counsellor, physical education teacher, home room teacher).

12. The transition of strategies, skills, etc., to post-secondary should be specifically programmed on an individual basis.
13. Monitoring and evaluation of student(s) performances (for both formative and summative information) should be constant. This is critical as little data is available regarding program effectiveness at the secondary level.

The following sections attempt to provide secondary teacher(s) with some general approaches (strategies) for working with the learning disabled adolescent in their classroom(s). The assessment approaches and tests that determine strengths and weaknesses in the basic skill areas have been given in previous sections. This section will highlight some specific suggestions to approach instruction for this group.

Reading

The secondary level curriculum does not emphasize basic skills taught in reading. In addition to Part 2 of this chapter on reading, the following will focus on general procedures for further developing comprehension in content areas.

Reading Comprehension in the Content Areas

A number of approaches increase the comprehension of learning disabled secondary students. Those which might be particularly helpful are listed below:

1. The SQ3R approach (i.e., survey, question, read, recite, respond, review).
2. Structured Overviews.
3. Selective Guide-O-Rama.
4. Herringbone Technique.
5. The ReQuest Procedure.

(See Part 2 of this chapter for details regarding the above five approaches.)

6. Develop visual imagery in association with reading tasks (see Part 2 of this chapter for examples of this strategy; also Part 6 of this chapter - Spelling).

7. Use questioning techniques on the text: student-teacher, student-peers, self-questioning. (See Part 2 of this chapter.)
8. Teach the recognition of organizational patterns of paragraphs. Alley and Deshler (1979) suggest teaching the application of the major organizational patterns (i.e., enumerative order, time order, following a sequence, and using structural connectives). Have a group of students construct a chart of the patterns. Provide students with easy reading paragraphs to practice identifying the patterns.
9. Teach students to skim material with different purposes in mind (i.e., previewing, overview, and review). Many learning disabled students have difficulty here and must be specifically taught this skill. Practice often with a variety of materials.
10. Teach scanning skills with much guided practice. There are three levels of skills which should be emphasized: scanning for a specific point, scanning for an answer to a specific question, and scanning for information that will not appear as simple answers to a question (Alley and Deshler, 1979).

The above suggestions all involve the focusing of the student's attention, organization, planning, and monitoring of performance. These are critical skills for the learning disabled adolescent. However, even when these specific skills are well developed, performance will be sporadic unless they are consistently and properly applied.

For more specific examples see the Spelling, Mathematics, and Reading parts of this chapter.

Mathematics

The informal/formal assessment procedures and intervention strategies for mathematics for the secondary level student have been given in Part 6 of this chapter. This section will discuss approaches which might be most useful to the secondary level student.

General Guidelines

1. It is important to plan for success: task analysis procedures which break tasks into sequential steps can assist.
2. Decrease student's level of anxiety regarding mathematics activities.
3. Present mathematical tasks in a highly organized manner; go through the steps sequentially; and practise the task using the student's feedback.
4. The teacher should use modelling, self-verbalization of procedures, and regulation of behavior (monitoring) in his or her general instructional procedures.
5. The teacher may teach learning disabled students to use compensatory methods when necessary: external memory cues, calculators, peers, oral rather than written problems, and tape instruction for study.
6. Teach the student to discriminate between relevant and irrelevant information in problem-solving situations.
7. Teach thinking skills throughout the mathematics program.

Below are some alternative teaching strategies for mathematics:

1. Make use of a modified version of the problem-solving procedures advocated by Alley and Deshler (1979). (See Part 2 of this chapter for specific procedures and examples.)
2. Teach error monitoring procedures to instill self-monitoring skills. (See Part 3 and 5 of this chapter.)
3. Emphasize the clinical mathematics interview approach. (See the Mathematics section, Part 6 of this chapter.)
4. The teacher could incorporate self-instructional training procedures to enhance attention, monitoring, etc. (Details of this approach can be found in Part 1 of this chapter and in the sections on Mathematics and Spelling.)
5. The teacher could use the banded approach to the administrative procedures for presenting mathematical work. (See the Mathematics section of this chapter.)
6. For some students, this may be the time to overcome difficulties in basic facts through the use of a calculator. This will allow time for teaching estimation and thinking skills.

The above develop organizational, attentional, and generic learning-thinking strategies. Motivational factors are also important and can be assisted by incorporating functional survival aspects into the activities used. Some possible strategies for incorporating these are as follows:

1. Have potential employers and other speakers discuss the need for mathematics skills in their work.
2. Have graduates discuss with students how they use mathematics in their work.
3. Use mathematics to solve everyday classroom problems: i.e., scheduling time for studying.
4. Establish a business in the classroom to help reinforce mathematics skills.
5. Use field trips as an opportunity for students to analyze how mathematics skills could contribute to job success.
6. Reinforce the skills taught by having students devise their own mathematics problems from everyday experiences.
7. Use materials already developed on functional skills in mathematics. (See The Material Resources Handbook from Alberta Education: Special Educational Services.)

Comprehension in Reading Mathematics

Aukerman (1972) has given the following guidelines for checking the students' comprehension of mathematics reading.

1. Have the students restate problems in their own words.
2. Have the students study vocabulary in relationship to context, never in isolation, and compare as many terms as possible with everyday usage.
3. Have the students construct a chart or graph to note relationships between parts of the problem.
4. Have the students draw a diagram which evolves from a step-by-step rereading of the problem.
5. Discuss "educated guess" and why guesses are or are not "educated".
6. Have the students solve the problem, then check against the "educated guess."

The teacher is encouraged to seek out more information from the resources given at the end of this chapter, as well as those found at the end of the section on Mathematics.

Written Expression

It was stated in the section on written expression that written expression is one of the most complex of academic skills. It is this particular communication skill that often gives the greatest difficulty to the learning disabled adolescent in secondary schools. Suggestions to assist secondary students with their written work follow.

Teaching Strategies

Some strategies for teaching composition skills are provided below. The Writing section of this chapter provides a variety of detailed suggestions for working on the mechanics of handwriting. Some of these suggestions are outlined below:

1. The teacher could use Kerrigan's (1974) steps to teaching composition.
2. Paragraph organization should be taught.
3. The teacher could use the SQ3R approach from Reading to provide a structure for developing writing skill. Also the Herringbone technique for reading could be adapted to the writing task. (See the section on Reading.)
4. The teacher could teach outlining skills as suggested in Part 3 of this chapter.
5. The teacher could use the "error monitoring" technique to teach proofreading skills.
6. To enhance motivation, everyday tasks could be used for developing composition skills.
7. The teacher could allow for compensatory methods to be used by students, depending on the severity of the problem.

Social Interaction Skills

The development of appropriate social skills is an extremely important aspect of a student's overall achievement. The ability to interact in "socially appropriate ways" is considered as highly as technical or academic skills. The ability to "get along" with supervisors and co-workers and clientele is critical to successful functioning in a career. It has been stated that this is an area which is often a significant problem for the learning disabled students. Generally, it is more of a problem for the secondary level learning disabled students because of its importance at this age. Chapter II, and Part 8 of this chapter provide an overview of this topic and include some ideas for developing skills. The following will highlight some of the more relevant approaches. It must be emphasized that not all learning disabled students demonstrate problems in this area. On the contrary, some have developed superior social skills which compensate for difficulties in academic areas.

Here are some guidelines for developing social skills:

1. Attention should be paid to developing the student's social skills in every class.
2. Positive and constructive feedback on the student's social behavior should be provided whenever possible.
3. A classroom climate that reflects concern and understanding is necessary.
4. Social interaction skills could include interpreting non-verbal communication cues.

The following ideas for developing social skills are most applicable to the secondary level student. They emphasize the development of self-awareness and social relationships. [For a more comprehensive and detailed view see Alley and Deshler (1979), Chapter II, and Part 7 of this chapter.]

Developing Social Problem-Solving Skills for Adolescents

Successful independent functioning is the primary goal of social skills intervention. The teacher must help students to become aware of effective strategies for problem-solving, and facilitate the use of these strategies. A variety of problem-solving paradigms exist.

The SOCS system (Roosa, 1974) for example, outlines a series of steps for the student to apply in solving problems. The steps of the SOCS system are (1) identifying the situation or problem, (2) identifying the options for solving the situation, (3) identifying the consequences or possible outcomes of each option, and (4) simulation of the option prior to its actual implementation.

Once a model is chosen that meets the needs of learning disabled adolescents, it should be explained and demonstrated to them until it becomes a technique that they can apply independently and habitually in problem-solving. Problem-solving models can be used on a one-to-one basis and both in small and large groups. Glasser's (1969) use of the classroom meeting as a social problem-solving meeting is an example of how these strategies can be used to advantage in group settings. The school counsellor will be able to assist in this area.

1. To teach problem-solving skills effectively, the teacher should be aware of some of the problems often experienced by learning disabled students.
2. It is important that the teacher serve as a good model in problem-solving and decision-making. Good modelling includes demonstrating a positive attitude, approaching problems with confidence, and applying sound approaches and reasoning in handling the problems in one's own life.
3. Another function of the teacher should be to encourage students to make value judgements about how what they are doing or have done contributes to their own problem(s). While much of the problem-solving process is an objective analysis of external factors, part of the process is also personal. Students must be

taught to recognize how they are a part of their own problem and, as such, must make a commitment to change their behavior.

4. Finally, the teacher should help students adopt a proper "response approach" to problems. At one extreme, this includes encouraging students to inhibit their initial responses and to refrain from snap judgements. At the other extreme, the teacher should encourage some rational risk-taking behavior. For students who guess or who place little value on reasoning as a way to solve problems, the teacher may have them attempt to solve a problem out loud. Following the students' explanations, a correct explanation of the problem is given so that students may compare their responses and see how their solutions and approaches differed from the ideal. For students who give up easily or who are very conservative in their approach to problems, rewards and encouragement should be given for guessing at solutions based on students' hunches.

School Survival Skills

Some adolescent learning disabled students enter secondary schools lacking experience in independent and responsible decision-making. These students may demonstrate adequate basic skills but fall behind in academic content areas because of their inability to deal effectively with the demands and expectations of the secondary curriculum. The teaching of school survival skills should be an integral part of the secondary school curriculum for learning disabled students.

Although unsatisfactory grades may indicate deficient skills, the grades may also reveal that the student lacks the study skills that might allow him or her to "get by" despite relatively poor academic skills. The following provide some suggestions for teaching those school survival skills:

Study Skills

The teacher might:

1. teach organization techniques (i.e., organizing notebook, organizing assignments, and organizing time);
2. teach how to follow written directions;
3. teach listening skills (see Part 3 of this chapter on Reading and Part 4 of this chapter on Writing for some ideas);
4. teach how to locate information;
5. teach note-taking (see below);
6. teach test-writing and test preparation strategies (see below).

Note-Taking

Note-taking is the academic tool which is most often used in learning new material. Learning disabled students require instruction in order to develop this skill. The following provides some ideas to assist the teacher in developing these skills:

1. In lecturing to the class write notes on an overhead projector. Encourage students to determine what the key points of the notes are.
2. Present a tape recorded lecture. As a class, make notes using the blackboard or an overhead projector.
3. After a class discussion, have the students summarize the key points.
4. Read an article and report the key points by answering the questions who? what? where? when? and why?.
5. Give an oral lecture and have students take notes. After the lecture discuss their notes.
6. Use Alley and Deshler (1979) idea of the two-column method of note-taking, which requires students to divide their papers into two sections vertically, leaving more space on the right side of the page. This method may be best for combining notes on lectures and written materials. The right-hand side of the page may be used for notes from the lecture. Under each major section, students should leave a large space in which to write later notes from texts that cover the major subjects discussed in each section. On the left side students should write a label for each major subject. This helps students recall information and gives them easy access to the notes.

7. Diagrams can help students organize materials from lectures or texts. Graphics have been used to help students clearly visualize information, see the relationships within the information, and generate alternatives.

These study skills should be integrated into regular instruction. If students are to use the skills realistically in the future, they must have ample opportunity to use them as part of the class study of materials. It is important for the teacher to remember that skills in note-taking must be modelled, practiced, and reinforced if they are to be generalized. The notes that students take in class might be checked by the teacher on a regular basis to ensure that learning disabled students are applying appropriate note-taking skills.

Test-Taking

The learning disabled student needs particular assistance with respect to test-taking and test preparation strategies which require planning and organization. Alley and Deshler (1979) have suggested that a five-step strategy might be taught to the learning disabled.

1. The student should ask what format the test will take as well as whether the material comes from the text, notes, or lectures.
2. The student should obtain copies of previous tests and answers. This will enable the student to know the type of questions asked as well as what topics are emphasized.
3. The student should set up a study schedule to avoid "cramming." Following each class the student should review the material just covered.
4. The student should understand testing terms such as compare, contrast, illustrate, briefly describe, define, and elaborate. If the student knows what each question is "worth" he or she will know how much information to give as well as how much time can be spent on each question.
5. Discussing feelings can help the teacher to reinforce the student's abilities as well as to help the student enter the testing situation with a positive attitude.

The next step for the student is taking the test. The following is a test-taking technique adapted from Carmen and Adams (1972) called **SCORER**.

The first step **S** is for the student to schedule his or her time. How many questions are there, and how much time is there to complete the exam? It also means skimming to determine the number. The second step **C** means cue words. A student should learn that “all”, “never”, and “always” rarely indicate a true answer on a true-false test, but “usually” or “sometimes” often do. The third step is **O** which means omit or leave till last the difficult questions. The student should answer the easiest questions first and then go back. The fourth step **R** means read the directions and examples carefully. The fifth step **E** means estimate the approximate range of possible answers for a question: e.g., the area of a shoe box will be in square inches, so answers in square feet may be disregarded. The student should also “guess” the answer if credit is not taken off for doing so. The final step **R** means review work. The student should make sure all questions are answered with the correct letter or number and be very cautious about changing answers without a reason for the new choice. The end result is **SCORER**.

Compensatory Strategies

It may be that for some learning disabled secondary students, compensatory techniques will need to be implemented in order for the student to adequately display his or her knowledge and indeed function adequately in the school. The following are some possible compensations that could be made depending on the needs and characteristics of the individual student.

1. Allow student to tape record lectures.
2. Allow student to take oral exams instead of written.
3. Allow student to have peers take notes.
4. Allow student to use a calculator.
5. Reduce the difficulty of reading material.
6. Allow use of a typewriter or computer for written assignments if the student has significant motor difficulties. A taped version is another option.

7. Encourage the student to do extra credit assignments as alternatives to the regular ones.
8. The teacher might use direct teaching skills and leave little to be “incidentally” learned. Specific directions in what to attend to and what not to attend to and how to think about information may be helpful.
9. Be flexible about time limits depending on the task and the learning disabled student’s abilities.

A Critical Point

It is important for the secondary school teacher to consider the educational, personal, social, and career aspirations of the student when planning interventions. As well, modifications to the instructional process, the curriculum and/or the learning environment have to be considered in light of individual aspirations, strengths, and needs. Much can be accomplished through a carefully articulated educational plan, the development of which is no different than at the elementary school level. Because of an increased number of teachers, a greater amount of coordination may be a strength.

A team effort in planning the last school years is just as important as planning the first school ones. As well, the student may play an enhanced role in the articulation, implementation, and monitoring of the total plan. The skills learned by the student in assisting in the planning effort will be used throughout his or her life.

In this way, learning is promoted as a lifelong process. The responsibility of the teacher is to teach the content of the course; to provide modified instructional strategies (where necessary and conducive to the total class environment); to facilitate student use of compensatory, coping, and school survival strategies; to communicate with the home and the student; and to participate actively in team planning. Many of the strategies suggested in this chapter on intervention are appropriate to all class members, but are particularly appropriate for the learning disabled student.

Summary

This section:

1. notes some myths surrounding the learning disabled adolescent,
2. presents some program alternatives that have been used,
3. presents some of the characteristics of the learning disabled adolescent,
4. provides some possible guidelines to meeting the needs of secondary learning disabled students,
5. emphasizes the importance of motivation and self-concept for the learning disabled secondary student,
6. provides some possible teaching approaches in different curriculum areas,
7. emphasizes the need for further program development and evaluation for the learning disabled secondary student,
8. points out the need for compensatory strategies to be used on an individual basis,
9. emphasizes the need for a concerted effort by all teachers involved at the secondary level with the learning disabled students,
10. points out the need to focus on the educational, personal, social, and career needs of the adolescent.

Chapter IV

Part 9

Career Development

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Chapter IV: Part 9 Career Development

Objectives

The purpose of this section is to:

1. help teachers become aware of the career development needs of learning disabled students,
2. provide a framework to address career development for all students,
3. describe the additional needs of and responses to those needs for the learning disabled student,
4. indicate that career development is a lifelong process and an important aspect of the total person.

Introduction

In June 1985 Alberta Education released a policy paper entitled *Secondary Education in Alberta*. The paper represented the culmination of the first stage in examining the purpose and direction of education in Alberta. With the student as the central focus of the policy statement, the document outlined the position of the Government of Alberta regarding the future of secondary education in the province. The principles and objectives described in this policy statement were consistent with and reinforced the thrust of the Government's White Paper: *Proposals for an Industrial and Science Strategy for Albertans 1985-1990*.

The policy paper outlined a framework for secondary education programs that included career education as a mandatory core of the junior and senior high programs. As well, effective guidance and counselling systems to support these instructional programs were identified as key factors necessary in an effective school. Alberta Education also includes life careers as one of the four compulsory themes of the elementary health curriculum, and thereby provides a continuous approach to career development in Alberta schools.

The provision of this comprehensive approach to career development will help to meet the career development needs of all students, particularly those with special career needs such as learning disabled students. Throughout the following sections, a generic approach to career development is outlined. This approach should be available to all students. A more detailed description is available in *Career Development Services for Alberta Students* (Alberta Education, 1984). The last section of this part of the chapter provides some challenges in meeting the needs of the learning disabled student.

Shared Responsibilities of Educators for Career Development

While education programs must address the career development needs of students individually and as members of society, it must be recognized that the educational system is not a panacea for solving the problems of employment or unemployment. Career development as a process does not occur solely within the school system. The

trends and forces at work behind technological and social changes clearly indicate that career development is a lifelong process; a process in which the home, school, and community have very significant roles. Occupational choice develops over a period of time which extends from childhood through adulthood. Therefore, the specific age focus of traditional career guidance, that is the notion that a firm occupational choice is made during middle or late adolescence, is no longer valid. Career development is a very real aspect of human growth that occurs throughout life. Career development activities are of lifetime importance.

The Concept of Career Development

The reasons for and objectives of career development in school programs necessitate a broad definition of what constitutes career development. For this reason, Alberta Education has adopted the view that career development is a lifelong process of awareness, exploration, preparation, and adjustment to the world of work. This process includes home, school, and community experiences that influence an individual's self-concept, life-style, and occupational choices. Career education is a part of the process of career development that occurs both inside and outside a school. Within the school, career education is a comprehensive, developmental program designed to help all students acquire the knowledge, skills, and attitudes necessary to make realistic educational and occupational plans. Career guidance and career counselling are parts of a comprehensive guidance and counselling service aimed at meeting the educational, personal, social, and career needs of students. Through career guidance, individuals learn to understand themselves and their environment, to be aware of work opportunities open to them, and to choose for themselves a suitable life-style. Career counselling assists individuals to clarify their goals, understand their interests, aptitudes, and abilities, and overcome obstacles to effective career planning and preparation.

Beginning in the elementary school, on through secondary school, and into post-secondary institutions, education personnel play a significant role in the development of students. Through a program of career education, students are taught to understand their own strengths, weaknesses, and skills; to be aware of work values and ethics; and to be aware of both the changing labour market and the need for flexibility and adaptability. Viewed in this manner, career development is a program in the mainstream of education.

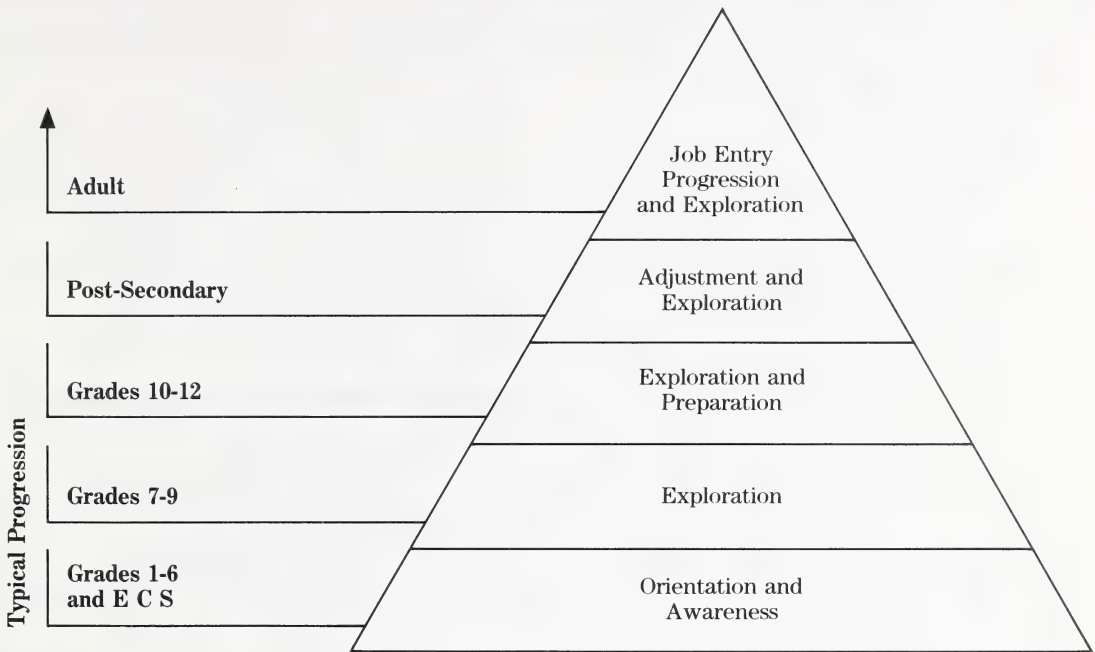
A Model of Career Development

Individuals commonly progress through a series of stages in their career development. Important dimensions of these stages are self-awareness, career awareness, career exploration, educational and vocational preparation, and work experience.

The model shown in Figure 6, adapted from the work of several researchers, illustrates the stages of career development as they occur from the start of school through to adulthood. The dynamic nature of the model reflects the maturation inherent in career development. This is represented by the broken lines and arrows used in the triangle. These indicate the potential of individuals to progress through the stages at a more rapid rate, to remain in their present stage until ready to progress to the next stage, or to return to an earlier stage of career development. The grade levels are only approximate guides to an individual's progress in career development. Job selection and entry usually do not occur until an individual has graduated from secondary school.

While individuals move through a series of stages, as the model indicates, these stages are not mutually exclusive. For example, individuals may be undertaking exploration of specific life careers, as in grades 10 through 12, while becoming aware of their own needs in relation to their interests and

Figure 6
Model of Career Development



abilities as in grades 1 through 6. As individuals progress through the successive stages of career development, there is an increase in activity and a corresponding specificity of career choice. While activity may become more focused as the individual matures, it is often necessary for the individual to return to an earlier stage of career development to clarify and refine decisions on career and life planning. For example, it may be that the individual has progressed in one direction without fully understanding the consequences of earlier decisions on his or her needs, interests, and abilities and how they relate to his or her present position.

Three stages are of particular interest in working with the school age child.

Stage 1

Awareness is the stage most closely associated with the preparatory and elementary school years (ECS - grade 6).

During these years children's natural curiosity and openness can be channelled into understanding themselves and others as well as into the meaning of work and the kinds of work carried out in their homes, schools, and community. Some general objectives for this stage of career development include:

1. development of individual self-awareness;
2. development of positive attitudes towards one's self;
3. development of positive attitudes regarding the nature of work — its personal and social significance;
4. identification of specific occupations that are carried out in the student's immediate environment;
5. identification of a variety of occupations that are available to both men and women;
6. identification of the role of the student as a worker;
7. enhancement of student performance by demonstrating the relevance of subject matter to the world of work.

Stage 2

The exploratory stage is closely associated with the junior high school years (grades 7-9).

In this phase of career development, students have the opportunity to explore, observe, and experience the world of work, and to develop a more complete understanding of their own skills, interests, and abilities as they relate to vocational choice. The emphasis is upon the development of effective decision-making skills founded upon a thorough base of knowledge. Some general objectives for this stage of career development include:

1. exploration of occupational clusters to develop an understanding of the characteristics and the relationships of jobs;
2. development of an awareness of the social, personal, and economic significance of different kinds of work;
3. identification of the interests, abilities, aptitudes, attitudes, needs, and values related to vocational choice;
4. identification of working conditions of various occupational groups, and the education and preparation required for job entry;
5. identification of the senior high school preparation programs related to occupational interest areas as part of educational planning;
6. acquisition of job search skills.

Stage 3

In the high school years (grades 10-12), students enter the third phase of career development: exploration and preparation.

During this stage, in addition to continuing the exploratory process begun in junior high school, students are actively involved in preparation for entry into the world of work or into post-secondary training. General objectives at this level include:

1. development of a more complete understanding through self-assessment and examination of how personal values, interests, aptitudes, and needs relate to occupational goals;
2. exploration of personal interests, aptitudes, and attitudes through a variety of experiences;

3. formulation of career expectations consistent with physical, intellectual, social, and emotional attitudes;
4. exploration of various post-secondary educational and training programs available in Alberta;
5. practice of job entry skills in preparation for a job search.

The high school years are those in which the major focus of career development is upon preparation for a first job, further education, and/or job training. However, the process of career planning continues after completion of high school, on throughout adult life, and into the retirement years.

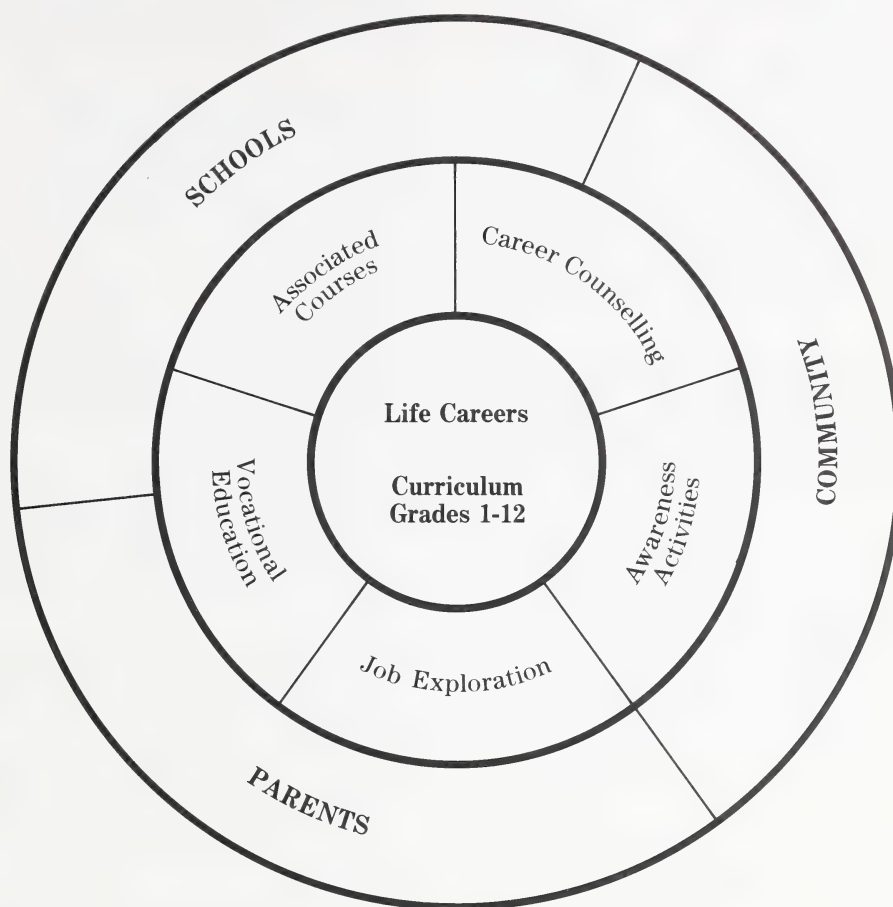
A Comprehensive Approach to Meeting the Career Development Needs of All Students

Career development for school-age children contains a number of inter-related components that require the active participation of school personnel, parents, and the community.

The school should provide a full range of career education services for all students. In addition to the core curriculum, students should have opportunities to explore job areas, to take specific vocational preparation courses, to develop a more complete awareness of career possibilities, and to fully explore their interests, aptitudes, and abilities as they relate to the world of work.

The model shown in Figure 7 illustrates the various components required for the delivery of comprehensive career development services to students. The basic Life Careers curriculum is further developed and supported by a series of interrelated activities, all of which are provided through the cooperative efforts of the school, parents, and community.

Figure 7
A Model for the Delivery of Student Career Development Services



The basic career education curriculum, in the centre of the model, is the primary vehicle for the delivery of career development services to Alberta students. It will be available to all students from grades 1-12.

Although the Life Careers curriculum provides basic career education for students, there are a number of additional components which enhance and expand it. As students mature, career needs tend to become both more diverse and more focused; a process that begins at the junior high school level and accelerates during high school years. As student needs vary, the school has a responsibility to assess and respond to these

needs. This response may take the form of associated courses, vocational programs, job exploration activities, further awareness activities, and individual career counselling. As well, the infusion of career development concepts into the total curriculum according to a developmental model will greatly enhance student career awareness and orientation.

Further job exploration is developed through work study, work experience programs, and part-time work opportunities in the community. Awareness activities may involve all or part of the school population in such areas as organized out-of-school visits, participation in career days, Canada Career

Week, and a regular program of guest speakers. Career counselling assists the student in the process of clarifying personal interests, aptitudes, and abilities relative to the world of work. As well, counselling can help students identify and overcome obstacles to effective decision-making.

Although all services should be available to all students, it is recognized that, both individually and collectively, students' needs vary greatly. Educators, parents, and the community in general must recognize and focus on the needs of individuals who may not fit within traditional approaches to career development.

Meeting the Needs of the Learning Disabled Student

Failure to enter a satisfying occupation and failure to maintain employment contribute to the likelihood of emotional difficulties. Despite their many strengths, each learning disabled student requires assistance in career planning to address the following:

1. Aspirations held by the student and parent or guardian.
2. Potential to achieve in post-secondary education.
3. Job search, job maintenance, time and stress management strategies.
4. Interest, attitude, aptitude, and academic factors.
5. Strategic social interaction behaviors and social situation perceptiveness.

While these particular issues are important for all students, the learning disabled student requires particular attention since many may be able to achieve beyond current academic indications. However, the same information processing deficits that are manifest in academic work may interfere with success in the workplace. Specific coping skills to accommodate these deficits should be a part of any career development program for the learning disabled student.

The Credit Core Curriculum in Careers

Some of the general objectives of a comprehensive credit core career development curriculum that will assist the learning disabled student include:

- a. an appreciation of the changing nature of work in society and its impact upon individuals;
- b. a recognition of the variety, complexity, and availability of occupational opportunities in the world of work;
- c. an understanding of the concept of career development and a recognition of the interrelationship of occupational choice and lifestyle;
- d. a recognition that career opportunities are related to activities performed in educational, vocational, and social roles;
- e. an understanding that long- and short-range planning is an integral part of career development;
- f. development of the skills required in decision-making, and in implementing career decisions;
- g. development of skills in self-assessment;
- h. recognition of the knowledge, skills, attitudes, and habits required to respond to opportunities and expectations of the world or work;
- i. development of the techniques of job search, job acquisition, and job retention;
- j. an identification of the factors that impede or support job advancement;
- k. a recognition of the knowledge and skills required to create self-employment, as well as the legal and financial implications of it;
- l. an awareness of social attitudes that may act as barriers to employment, such as social and sexual attitudes;
- m. an appreciation of the fundamental rights and responsibilities of workers;
- n. an understanding of the basic causes and nature of unemployment, as well as its effects on the economy and the individual;

- o. an appreciation of new work concepts such as temporary employment, job sharing, and reduced work time;
- p. an understanding of how personal and social needs can be met through leisure and vocational activities;
- q. an understanding of the knowledge and skills required for self-employment.

In meeting these objectives, role models should be selected so that those with special needs, as well as males and females, are able to view themselves as equal and contributing members of society.

At the elementary and secondary levels the intent is to make students aware that life is a career and that their roles as persons, family members, learners, and earners are never-ending. Roles may change over time, but an understanding of oneself as a person and the ability to develop social, emotional, intellectual, and vocational skills are things which transcend the limitations of any one role, and enrich the entire human being.

Summary

This section:

- 1.outlines a generic approach addressing the career development needs of all students;
- 2.describes some of the specific needs and responses to the career development of the learning disabled student;
- 3.indicates the importance and life-long nature of career development to the total person.

Chapter IV

Part 10

Teacher Resources and Bibliography

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Chapter V

Parents as Partners

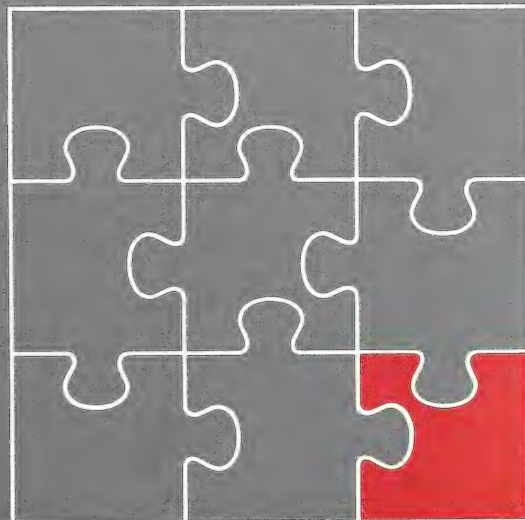


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Chapter V: Parents as Partners

Objectives of the Chapter

The purpose of this chapter is to:

1. help teachers and other professionals become aware of the feelings of parents,
2. provide an interactive model from which parent(s) and teacher(s) can work,
3. suggest ways that the parent(s) can be involved in the classroom,
4. provide ways in which information can be shared between the teacher and the parent(s),
5. describe the kind of training or services that are available to professionals and parents.

Introduction

Over the past decade, school/home interaction has become much more positive as parents and teachers have come to recognize the benefits of school/home cooperation.

There is a recent information sheet printed by the **Canadian Association for Children and Adults with Learning Disabilities (C.A.C.A.L.D.)**, entitled, *Parents as Partners in the Special Educational Programs of their Children*. The C.A.C.A.L.D. strongly endorses the participation of parents in the planning and delivery of educational programs for their children. They suggest that involvement of parents can only result in the mutual benefit of home and school:

1. Teachers gain important insights into children from the long-term experience and knowledge of the parents.

2. Parents and teachers are able to proceed amicably and cooperatively with the task of finding the best possible ways to assist children to learn and to grow.
3. Parents are less likely to reject or distrust the Special Education Program because of inadequate or faulty information.
4. Parents gain knowledge of their children's learning abilities and disabilities.
5. In an atmosphere of cooperation there is less possibility for teachers and parents to waste valuable time and energies on confrontation and on placing blame.

Schools are rapidly coming to recognize that working with parents and inviting their input can have a positive effect on overall program improvement. Research has very clearly shown that the positive changes in students' self-perceptions and their sense of control over their environment result from direct parental involvement in the educational program.

It is, however, important to point out that the shift to the concept of the home/school partnership has only just begun to emerge. As in the case of any major change within educational institutions, it will take time and much continued effort on the part of both the parents and teachers to truly become partners in the education of learning disabled students. For the readers of this manual who may be in a position to pursue such a partnership, it is essential to be aware of the numerous alternatives for involvement that are available. As well it is important to recognize and value the parents' views of their child and the child's educational needs. The remainder of this chapter will focus on a more in-depth discussion of these factors.

Effective, open, and caring communication between the home and the school from enrollment on is essential in meeting the needs of each student. As in a marriage, a sound base of communication can assist both partners to meet the challenges of living and working together.

Information Sharing: The Evolution of the Teacher's Role

A prerequisite for healthy parent(s)/teacher interaction is the sharing of information on the student's learning and academic progress. Traditionally, the teacher has had this responsibility. Special educational teachers, in particular, have had to be especially sensitive to this need. The following segment will review the development of the role of the present-day teacher:

One-Way Information System

Initial efforts to inform parents to a greater degree were characterized by increased written records of student's progress and attempts to send home summaries of this as well as relevant reference materials. Although this approach does have the advantage of increased teacher awareness of student progress through better documentation of academic performance, it allows for only minimal family interaction and as such misunderstanding can result from unanswered questions.

Two-Way Information System

Edge, Strenneck, and Mour (1978) have compared one- and two-way information systems and they assert that the latter is preferable in the establishment of parent(s)/school partnerships. The two-way system fosters interactive participation by parent(s) and teacher and helps in the development of constructive educational programs. Edge et al. (1978) point out that by encouraging parents to share information and take part in

the planning of the child's school program, many advantages result. Teachers have the benefit of the parents' insights on and experience of their child's learning potentialities as well as the parents' input on student attitudes, behavior at home, motivations, and interests. Such information can help the teacher to individualize the student's program and to accommodate the student's particular learning style. As parents become more familiar with the teaching procedures and learning goals specified for their child, they can enhance and complement the educational program by providing consistency.

Teachers as Information Sharers and Facilitators

The present-day educator's role in information sharing has evolved beyond the two-way information system. Today's teacher not only promotes parental input, but works as a resource person to connect parents with other professionals and resources that may be of help to the disabled child. This includes any number of actions that a teacher might initiate, from providing information about a new grant system to fund tutors; to suggesting the need for an in-depth reading assessment; to instigating a parent education program on behavior management techniques; to putting the parents in contact with a local parent group. This level of information sharing between parents and teachers ensures that parents and teachers are partners in education.

Where Does a Teacher Start?

It is sometimes a frightening prospect for a teacher to accept increased parental interaction and involvement. Some teachers will be fortunate to be part of a system that has traditionally adopted a philosophy of openness and invitation to parents. In this case, a working partnership with the parents of the disabled student should be relatively easy to establish. The following section

presents some of the currently available options for teachers and schools. It is important to note that teachers are not expected to become parent effectiveness trainees or family counsellors. However, this section may help teachers be aware of how to support others.

Home and School Communication

Teachers Contacting Parents

There are many ways a teacher can signal an interest in sharing information and establishing a working relationship to parents.

- a. **Telephone.** A quick and direct way of sharing information is simply to call the parent(s). If the teacher has a concern about a student, a call to the parent(s) can help to confirm or dispel such concerns and could also be the first step towards a personal meeting or a parent/teacher conference.
- b. **Notes, letters, and logs.** Written feedback to parents is the most traditional form of communication. This usually has taken the form of a report card or a letter to parents. An unexpected word from the school was often either disciplinary in nature or expressed criticism of the child's involvement at school. Written feedback can be used more positively to praise the student's progress, to inform parents of an accomplishment on the part of the student, or to be a part of a home/school behavior improvement project. The advantage of written notes is that they can provide a permanent record of student performance. They provide parents with direct and frequent feedback, and they can serve as a basis for parents to comment or respond to the school.
- c. **Newsletter.** This can be used as a general means of establishing contact with parents, and may be particularly effective for a new or inexperienced teacher to let parents know of some of the major problems and approaches being used in the class. It could also be used to give tips

to parents on home instruction. A number of topics that would be of interest include good work habits, enrichment activities, and ample praise.

Effective and creative use of the telephone to increase parental knowledge or interaction with the school has been reported by a number of researchers. Heron and Axelrod (1976) implemented a word recognition program with inner-city school children and were able to show significant gains for those students. The parents of these students were daily reinforced by telephone for assisting with the child's word recognition assignments. The telephone call was also used to provide feedback on the student's performance from the previous day.

Another way of using the telephone to serve a large number of parents has been reported by Bittle (1975). A telephone answering service was established at the school and successfully used in a research project to improve student performance on spelling tests. By providing the student with a spelling word list and making this available to parents via recorded telephone messages, the percentage of students obtaining perfect scores in spelling was significantly increased in comparison to the percentages when spelling word lists alone were used. There are many other ways a telephone answering service can be used to keep parents informed and involved in the school programs. Telephone answering systems could be of great advantage to schools because such systems are relatively cheap to install and maintain, are reliable in that the taped information can be obtained directly by parents without having to rely on the student, and are flexible since messages can be taped in a short period of time and can be easily updated. Moreover, parents — especially working parents — have access to school information at their convenience without having to contact school personnel.

Written communication can be made on an infrequent or occasional basis in the form of pre-printed notes or award certificates. In cases where teachers would like to involve parents in behavioral or academic goals, a behavioral card system, a home-school note program, or even a shared daily log system might be implemented. Parents and teachers need to meet prior to the

implementation of such programs to establish procedures such as how often a note will be sent, what type of ratings or points are required to receive a reward, the type of reward, and the specific goals of the program.

Teacher/Parent Conferences

Teacher/parent conferences have in most schools become a standard practice in conjunction with the issuing of report cards. For teachers working with learning disabled students, there is a great deal of information that suggests way to make such conferences as useful as possible. Moreover, an experienced and prepared teacher might consider meeting parents when needed rather than waiting for the scheduled conferences.

Stephens (1977) suggests that the successful parent conference is one that is goal-directed with specific objectives clearly stated. The objective of the conference is to provide a means of exchange by which both parent and teacher can cooperate in the improvement and development of the student. Without considerable planning for this type of exchange, conferences can easily be reduced to the level of a social visit. Dembinski and Mauser (1977) conducted a major study with parent members of the Association for Children with Learning Disabilities to find out how communication with professionals could be improved. The results suggest many points that teachers can incorporate into their planning of parent conferences. Primary suggestions include being straightforward with parents and avoiding educational jargon; involving both parents where possible; providing reading material to help the parent(s) better understand the student's problem; presenting and reviewing all written reports concerning the student; contacting other professionals who are also working with the student; and lastly providing concrete and relevant advice on handling management and learning problems.

There are a number of sources available for teachers, concerning specific guidelines for conducting parent/teacher conferences, and the following list provides a summary of some of these as well as additional suggestions:

1. Pre-planning and Preparing

- The inexperienced teacher can role play or interview with more experienced colleagues prior to the conference.
- Collect samples of the student's work to exemplify best, worst, and most characteristic performance.
- Assemble informal and formal assessments and written reports concerning the child.
- Review cumulative records and records or notes from previous conferences.
- Have a written plan for discussion. This could be set out to include areas of strength, areas that have shown improvement, areas that require more attention, specific questions for parents concerning the child's behavior and performance at home, and some suggestions for helping the child.
- Schedule conferences well ahead of time, request that both parents attend, and indicate the amount of time available.
- If a series of conferences are scheduled, provide seating for parents who are waiting, and leave approximately 10 minutes between conferences to make notes and to prepare.

2. Conducting the Conference

- Start the meeting with a few minutes of casual conversation to create an easy, open atmosphere.
- Indicate the general areas that are to be covered and begin as planned.
- Avoid jargon; speak in a clear, concise manner.
- Restrict note-taking to a minimum, though note all major plans and actions to be carried out.
- Give the parent the opportunity to look at all work samples, assessment results, and written reports. Invite questions that may arise from these.
- Listen carefully to the parent, accept the expression of feelings, attitudes, and ideas. It is especially important that the teacher refrain from judging the parent or showing approval or disapproval of comments.

- Give positive feedback and encouragement to parents and convey a desire to have this active interest in the child's school experience continue.
- Avoid comparing the child to other classmates and especially to older brothers or sisters.
- Take time at the end of the conference to summarize the discussion and to review plans for specific and cooperative action to be taken by both parent and teacher. Ask the parents their opinion of the conference and follow-up actions.
- Establish plans and times for any follow-up communication or further meetings.

3. Follow-Up and Evaluation

- Immediately following the conference, note the main points made by parents, and make summary notes.
- Review pre-determined conference objectives and evaluate whether the goals have been met.
- Consider possible ways to improve the effectiveness of interactions, and jot down ideas in preparation for future meetings.
- Make sure that other teachers or school personnel who need to be aware of plans or decisions resulting from the conference are informed of these.
- Begin to carry out plans and provide feedback to parents as progress is noted, or if alterations in plans are necessary.

How to Counsel Parents

It is difficult to sort out where the role of the teacher ends and the role of the counsellor begins when interacting with parents of children with learning disabilities. Since the teacher is often the first person to alert the parents to the learning problems of their child, it is sometimes necessary for the teacher to assume the dual role of teacher/counsellor. Even though most teachers do not have formal training in counselling, they can still make a significant contribution to the goals of parental counselling as defined by Telford and Sawrey (1981). They suggest that the ultimate goal of counselling for parents of exceptional children is "to help reasonably well-integrated people understand and deal more adequately with the problems growing out of the presence of

the deviant child in the family (page 180)". The assistance of the school counsellor as a consultant is advised.

Some elementary principles of parental counselling are summarized below:

1. Encourage the parent to talk about his feelings, ideas, and concerns: be an active listener. Attempt to confirm your understanding of comments made by rephrasing what was said or by using phrases such as "Tell me more" or "Anything else?"
2. Communicate at a level understandable to the parent(s). Careful listening to the parent's comments can help the teacher determine the vocabulary and terms acceptable to the parent.
3. Accept parents at whatever emotional level they may present, and work to achieve a warm, understanding, and empathetic relationship without fostering overdependence.
4. Stress the importance of attendance by both parents at meetings, and do not overlook the needs and reactions of other family members.
5. When reacting to their child's learning problems the parents may be overwhelmed, bewildered, hostile, anxious, and have any number of emotional responses, which may interfere with their ability to make logical decisions. Teachers can help parents to express and clarify these feelings by listening and by not making critical, moralistic, or trite observations or comments.
6. Teachers should be able to present diagnostic information at a level commensurate with the parents' level of understanding. Effort should be made to ensure that diagnostic information has been understood and that the student's strengths are also recognized.
7. It is important for the teacher to help the parents to make use of family and community resources to meet the immediate and long-range needs of the learning disabled child. This can help to move parents from a state of emotional preoccupation with the problem to effective, positive action.

8. Help the parents to have a balanced and healthy set of expectations which challenge the child and encourage him or her to be independent, yet which are reasonable in terms of the child's abilities.
9. Encourage parents to become involved in groups where they can exchange information and experiences.
10. Counselling is a continuous process, and if teachers convey a policy of openness and trust, this will be respected and maintained by the parents. (Telford and Sawrey, 1981, pages 181-190.)

A final note is necessary before concluding this section. Though a teacher may well be able to satisfy the counselling needs of most parents by following the above principles, it is imperative that teachers be sensitive to those parents who may require professional counselling services. In this case, teachers should recommend the services of professionally trained counsellors.

Parent/Teacher Information Exchange

There may be a number of parents who desire school counsel and consultation to help cope with the many challenges presented by a learning disabled child. Educators might consider initiating an informal parent/teacher information exchange program specifically to address these concerns. Through the cooperative planning of a parent and school advisory board, the relevance of topics selected can be ensured, and the teacher's time and effort can be channelled into addressing the topics of interest to parents as a group, rather than as individuals. Karens and Zehrbach (1972) have suggested that meetings be focused on one topic agreed upon by both parent and educator. It may be useful early in the year to develop a schedule of topics to be covered, so that parents who are interested in specific topics can make arrangements to attend on that particular day. As well, teachers and administrators can recommend meetings that would be of interest to particular parents.

Mayer (1982) suggests several topics for consideration.

1. Management Techniques for Parents of Learning Disabled Children.

2. Parent-child and Sibling Relationships — What about Non-handicapped Children in the Family?
3. The Individualized Education Program: A Positive Approach for Planning.
4. Career Preparation Programs in the Schools.
5. How Much Independence Can We Expect? (Mayer, 1982, page 249).

If an advisory board has been established it may be useful to create a "menu" of topical choices to be ranked according to preference by all interested parents. It is further suggested that choices be provided from three categories:

1. understanding the exceptional child;
2. the school curriculum;
3. community services available.

Such programs will provide parents with the opportunity to obtain information on a more in-depth level than can normally be obtained in the normal parent-teacher conference. As Mayer (1982) pointed out, "an enlightened and cooperative parent group is a key factor in achieving a successful school program" (page 250).

Options for Parent Participation in the Schools

Augmenting School Programs at Home

The possibility of parents participating in the extension of school goals and programs at home has been explored in recent years. The findings suggest that the approach has far-reaching and positive effects. This support can help to increase the child's academic motivation; to continue a behavior management program; to promote effective study strategies; and to provide basic academic tutorial assistance.

One of the most common problems that parents have with their learning disabled child is the inability to discipline and/or manage the child's behavior extremes. There is ample research to show that parents can be successfully taught to use a variety of techniques for better management of

behavior problems in the home. Moreover, there is strong evidence to suggest that programs which have been cooperatively developed between school-related personnel and parents can and have been effectively and successfully implemented (Hall, Cristler, Cranston, and Tucker, 1970; Moore and Bailey, 1973). The ultimate intent and advantage of involving parents in behavior management approaches is to provide a consistent response to the child's behavior at home and at school, and to foster collaboration on selected goals for the child.

Parents can also help in extending the effectiveness of school programs by providing academic tutoring at home. Williams (1983) notes there are many advantages to having a parent serve as a teacher and provider of services. She suggests that the present need for services for the learning disabled far outstrips the availability of professionals, and therefore parents could be instrumental in filling this gap. Direct training of parents with skills for working with their children frees the professional from having to work on a one-to-one basis with each child, thereby multiplying the overall effectiveness of professional input. Finally, in view of the fact that the learning disabled child often requires considerable repetition and drill of newly acquired concepts and skills, parents can help by providing this at home.

There are many specific examples in the literature of useful methods to facilitate the parents' ability to assist in their child's academic and social development (Kroth, Whelan, and Stables, 1970; Shapiro and Forbes, 1981). Others such as Lerner (1976) suggest the care should be taken, since parents may, through a lack of proper instructional skills or a lack of adequate time, impose such pressures on the child as to impede academic progress at home and at school. Williams (1983) further suggests that "since heredity may be one cause of learning disabilities, the parent might also have the same learning or behavioral problems as their child" (page 505).

In summary, there appears to be a critical need for the teacher to explore the advantages and disadvantages of utilizing parents for home-based education programs. The possibility for the successful implementation of the programs such as those described in this section will depend on the expertise and attitude of both the parent and the teacher. As a final point, Williams (1983) suggests that educators must learn to balance two facts: parents are powerful teachers and models in their own right, and that there are dangers in burdening parents with a job for which they may have few skills, and which may undermine their important nurturing function.

Parent Volunteers in School

Many schools have implemented or have considered implementing parent volunteer programs. This kind of parental involvement has been used and supported by special education teachers, who recognize how beneficial such programs are for both parents and teachers.

Parent volunteers, for example, are introduced to present-day instructional programs and materials, and this knowledge can be positively applied to their home interaction with the learning disabled child. In addition, the day-to-day association with the school might better help the parents to understand their learning disabled child's perceptions or perspectives and perhaps even provide a more realistic view of the problems that other learning disabled persons have. For the teacher, the potential help from a well-planned, well-organized parent volunteer program is immeasurable. There are countless number of non-teaching tasks that the parent volunteer could undertake, thus saving hours of the teacher's time. Parents bring with them a variety of talents that the teacher can use. The use of parent volunteers for teaching tasks can reduce the teacher-student ratio in the classroom and, as such, can free the teacher's time for more needy students.

A final point is raised by Mayer (1982) who notes that teachers may feel threatened by frequent visits of parents to the classroom,

which can be misinterpreted as spying missions. Mayer (1982) suggests that "this concern may be eliminated by adjusting the focus of parental involvement. Observers tend to be critics, helpers tend to be supporters" (page 251).

For the teacher who might be interested in becoming involved in a volunteer program, a number of things need to be considered. Programs can vary in their design and scope. They can be initiated by the individual teacher or the program could be part of a larger school or school division program. For the teacher who has limited experience, it is suggested that initial programs be started in only one or two areas and for perhaps a small portion of the day or week. On the other hand, in those schools and school districts that are planning or operating large-scale programs for parents and para-professionals, the need for adequate training programs cannot be over-emphasized. Schools are advised to ensure proper inservice orientation, to obtain adequate support from school administrators, and to maintain proper and continuing supervision on the part of the teacher or the educational consultant. Precautions such as these are in the best interests of everyone involved in the program and are critical for its ultimate success.

Volunteers can be solicited by the teacher in a number of ways. The entire school staff could be addressed at a staff meeting and suggestions for volunteers as well as program design could be solicited. Alternatively, the individual teacher could send an invitation to all parents to volunteer.

Before implementing a parent-volunteer program, the design and the goals of the program should be established. Once the teacher has established a working model for implementing and scheduling the program, these goals should be reviewed and supported by the school administrators.

The organization of times and materials is a necessary task of the teacher. Establishing and planning procedures before implementation can save a great deal of time. Most important is a master timetable of parents' names and volunteer times. The teacher can refer to this and make weekly

plans for the times parents are available. For programs that concentrate on one-to-one tutorial work with individual students, a planning card system could be used to inform parents of materials or concepts to cover, and can also serve as a permanent record of volunteer activities.

Alternatively, if the program consists of a variety of tasks and volunteers, the teacher could use a large blackboard to indicate tasks to be completed. It is essential to have a method of pre-planning and a means to convey what is to be done so that a volunteer can refer to it upon entering the class. In this way the teacher need not be unnecessarily drawn away from teaching duties.

The scope of activities that parents might become involved in is unlimited. Berger (1981) has provided a list of task possibilities which include teaching tasks, non-teaching tasks, and contribution from home. It would be advantageous to develop a small booklet of activities for parents that may be required or helpful in any particular classroom or school, allowing space for supplementary suggestions from parents. These suggestions would address the interests or expertise that parents may want to share. Every task listed might indicate the minimum time commitment that parents need to invest, as well as a short elaboration of the specific obligations inherent in the activity.

When the task involves direct tutoring of a child, a conference might be held to discuss the unique functional profile and the specific learning disability of that child. The parent volunteer would record the interaction with the child in a diary.

Research shows that mothers have been trained effectively to serve as tutors for deficits in visual perception, auditory discrimination, gross and fine motor coordination, visual motor coordination, etc. It seems likely that parents could become para-professionals in other areas of learning disabilities as well, such as attention, organization, or memory. [For more information on instituting a Parent Tutorial Program and on instructional materials, the reader is referred to Sabatino (1976) and to the specific teaching strategies outlined in his book.] Parents should also be familiarized with compensatory strategies appropriate to diverse learning disabilities.

A teacher will determine the activities of parent volunteers according to his or her own needs within the unique classroom environment. Specific policies on conduct should be documented and discussed. A parent can subsequently indicate willingness and preference for any particular engagement. Parents uncomfortable with the task of tutoring may prefer to engage in non-teaching functions or share a specific interest or expertise. To familiarize parents with classroom activities, an orientation day could be organized.

Researchers have found that the general social atmosphere between parent and child, and parent and teacher improved as a result of parent tutoring and that the child experienced an increase in sense of self-worth.

Parents as Participants in Parent Groups and Parent Training Programs

There may be limited opportunities for parents to become involved at the school level; however, there are several avenues parents can pursue to increase their knowledge and understanding of the learning disability of their child. Teachers should advise parents of these opportunities. One option is to join a local association for learning disabilities. The Canadian Association for Children and Adults with Learning Disabilities (C.A.C.A.L.D.) was established in 1971. Twenty-seven local chapters of the Alberta Association for Children and Adults with Learning Disabilities exist. A central contact person for the Alberta Association is the Executive Director in Edmonton (Telephone: 423-2360).

Mandell and Fiscus (1981), in their discussion of the history of parent groups, note that the initial concerns of parent groups established around mid-century were to exchange information and to provide self-help. However, as a result of their recognition of problems faced by many parents of exceptional children in the larger society including "too few institutions, too little public awareness, uninformed legislators, and unpublicized technical accomplishments...the parent groups evolved into formal organizations sponsoring activities aimed primarily at public awareness" (page 121). Parents and professionals who currently belong to a charter group of the C.A.C.A.L.D. enjoy a

variety of services including information exchange, library services, parent support groups, regular meetings, conferences, and summer camps for learning disabled children. A teacher can help interested parents by informing them of the local association and how to get in touch with the group. It should be mentioned that many teachers and other professionals have memberships in an association for learning disabilities.

Educators are familiar with the impact such local groups can have on lobbying for improvements in educational services, and on teacher training programs. Indeed, many of the special education services that are currently available for learning disabled students in Alberta are the result of the work of parents from local associations making appeals to school boards and governments.

Other options that parents might explore would include participation in the various parent education and/or parent training programs available in many Alberta communities. Programs can range from informal teacher-initiated discussion groups to formalized courses geared to training parents in various skills. For example, the University of Alberta offers an extension course, General Orientation to Learning Disabilities (GOLD), for parents of children with learning disabilities. Over a number of weeks, several topics such as assessment, attention and hyperactivity, and language and reading difficulties are covered by various local experts in the field. Such programs give parents the opportunity to request information regarding their own child as well as summarize the present status of various issues that are pertinent to the area.

Parents as Advocates

One definition of advocacy is a program in which agencies or individuals, mostly volunteers, act on behalf of the interest of others; e.g., child advocates. Generally the major goal of an advocacy program is to ensure the protection of the rights of a particular individual or group. As a result of federal and provincial legislation and litigation in recent years, advocacy programs for the handicapped have developed at a rapid rate. Advocates for the disabled

frequently function in such areas as school placement, housing discrimination, vocational placement, and barrier-free access to public buildings.

Parents of children with learning disabilities are some of the most important advocates the learning disabled child has. Recent legislative and political events, particularly in the United States, have demonstrated the power of parent advocacy. As noted by Williams (1983), parents can advocate on behalf of their own children by ensuring that the necessary services are provided for the child and that these services are up to a reasonable standard. At a second level, advocacy has generalized to involving children with learning disabilities in general, via prominent parent-professional organizations such as the Alberta Association for Children and Adults with Learning Disabilities (A.A.C.A.L.D.).

In summary, it is important to point out that parents should have direct input in the search for the best solution for the education of learning disabled students. [For an overview of the legal perspective in Alberta, parents and teachers are recommended to refer to a publication entitled "Law for the Handicapped" by D. Cruickshank and G. Lacourciere (1979) that can be obtained from the University of Calgary, Faculty of Law.] Teachers are encouraged to work closely with these groups.

Parents as Members of Local Advisory Committees

The local advisory committee provides a formal mechanism for teachers, parents, community representatives, and others to meet. At these meetings, decisions are made on mechanisms to meet the needs of students and to foster the educational, personal/social, and career development of each student. Below are some general committee guidelines:

1. Committees should have a balanced membership that represents different geographic areas, different educational programs, and different types of expertise.
2. Members should be people who are committed to attending meetings, representing their constituency, and taking an active role in committee work.
3. Parents of the mildly handicapped have the largest group of children needing service, but are frequently under-represented on the committee — this should be avoided.
4. Committees will be more effective if professional personnel from the schools and other agencies are members.
5. School administrators have a definite role to play within a committee. They should disseminate information, make suggestions, provide technical assistance, and facilitate communication with policymakers.
6. Committees must remain visible and must communicate with their constituencies, with the public, and with the right people in the school organization.
7. Committees must have a "mission". If members see themselves in challenging roles, they will be active participants. Bylaws can define each committee's "mission".
8. Committee chairpersons should produce well-planned agendas.

Parents in Perspective

In order to generate a mutually beneficial partnership in education, teachers need to be cognizant of parental reactions to the multiple problems experienced by the learning disabled student. The success of the learning disabled child is incumbent upon an effective program of education in which the parents are active participants. The following section will highlight parental feelings and environmental variables that are likely to influence the quality of the parent-teacher partnership.

Parent(s) Feelings and Supportive Teacher Actions

Parents are frequently overwhelmed by the fact that they have a learning disabled child, especially since the term "learning disability" is vague, slightly ominous, and often poorly understood. A parent can become over-concerned and may feel a sense of loss, alienation, and devastation. Living with a learning disabled child raises a myriad of emotions ranging in intensity from mild to severe. Such emotions create problems and may lead to discouragement, misunderstanding, and hostility.

Hurt

Among the potpourri of emotions parents are most likely to experience upon discovering that they have a learning disabled child, hurt is the most pervasive and most predictable. It determines many of the other feelings and coping strategies. Parents experience hurt when their child comes home with a report card and they hear him or her say, "You don't want to see it right now, do you!" Parents hurt when their child is rejected by his or her peers and is suspended from school because of his or her concomitant behavior problems. Parents are hurt when they see their child withdraw from social situations and at times even from involvement with the parents themselves.

An informed teacher, sensitive to the hurt of such parents, will understand and empathize. The teacher will be a good listener and avoid blaming the parent. Such a teacher will be able to provide the support necessary to diffuse non-adaptive defense reactions.

Confusion

The learning disabilities syndrome is an elusive phenomenon because no single avenue or answer is applicable to all situations and all children. Every child's functional profile is unique and requires individualized attention. Experts may not agree on diagnosis or programming. Father believes that Mother is over-reacting to the situation and the grandparents wonder if Mother may not be creating the problem through an over-emphasis on normal variations in behavior. The opposite beliefs about Father also exist.

A teacher can assist parents by explaining the dilemma and by helping them to accept occasional setbacks in their attempts to find appropriate programming for their child. Exploring with the parent a variety of possibilities and discussing the needs of the child may alleviate some of the parent's feelings of dismay and confusion.

Guilt and Indecision

Guilt and uncertainty may arise from the confusion surrounding a child with a learning disability. The parent is faced with the inevitable suspicion that his or her child-rearing practices were inadequate or that he or she is the actual cause of the disability.

Through all this confusion, the parent is faced with the need to choose some course of action which will benefit the child. For example, "What can I do that will be helpful right now?", "What is the right action to take?". Feelings of guilt may arise because not enough time is being devoted to the siblings.

A teacher can help by de-mystifying the nature of the child's problem, by clearly circumscribing or localizing the area of dysfunction, and by pointing out that sufficient evidence is available to suggest that a learning disability may be a central nervous system variation.

Helplessness

The parents' feelings of confusion, guilt, and indecision create, at least in part, an attitude of helplessness and a sense of having little control over what is happening to the child. In some instances this helplessness is accompanied by depression which is frequently intensified by a sense of personal inadequacy.

It becomes incumbent upon the teacher to provide the parents with information on learning disabilities and to encourage the parents' participation and involvement in the child's education. By providing knowledge of learning disabilities and by encouraging the parents' involvement, the teacher sets up a climate that fights against helplessness and allows the parents to regain some sense of control.

Fear and Anxiety

Related to helpless depression is the fear of abnormality and the feeling that something may be terribly wrong with the learning disabled child. If the symptom complex includes social ineptness, hyperactivity, or impulsive behaviors, a parent will have daily proof of injury and impairment to the child's physical and social well being. Consequently, the parent(s) live(s) in a state of constant anxiety and fear. Academic incompetence will give additional weight to the fear that the child will not be able to survive in a highly verbal, information-oriented society such as ours.

A teacher will be able to diffuse some of the fear by placing emphasis on the child's strengths and by pointing out some normal

variations and deficiencies that children of that age encounter. Many successful people have learning disabilities; it was often a handicap that motivated such persons.

Defensiveness

Defensiveness is an attempt to reconstitute the balance between need and need-deprivation. In this context, avoidance of humiliation will surface as a central motivation for much of the parents' behavior. Angry accusations and such are not necessarily meant to run-down the teacher. They are face-saving devices for parents who feel degraded because their child is so incompetent and such a problem for everyone.

If teachers understand this dynamic, they will not feel personally threatened and will react appropriately to preserve a climate of effective communication.

Denial and Escape

Kronick (1973) has pointed out that denial is an adaptive mechanism used to cope with profound shock. Initially, when a parent is told that his or her child has a learning disability, he or she experiences feelings of disbelief and shock. This shock may be so overwhelming that the parent will block any further input and question the teacher's or psychologist's judgement.

Professionals need to understand that it is adaptive for the parent to engage in feelings of denial and that it is not helpful for the teacher to persist in stating "the facts". When the denial phase is prolonged or transformed into an escape mechanism, it becomes non-adaptive. A teacher may notice the emergence of a feeling that could be interpreted as apathy or an unwillingness to become involved. One may encounter this tendency expressed as "I am too busy to help", or "You are the expert".

Disappointment

When a parent does become fully aware of the existence of a learning disability and its possible implications and risk factors for the future of the child, he or she may encounter a debilitating sense of disappointment. Parents may feel that the disclosure has shattered the hopes and dreams they had for

this child. Feelings of disappointment re-occur as a result of inadequate interventions and lack of progress in school or in the social area.

Teachers can respond to disappointment in a similar manner to that with which they would respond to fear. They may also allude to the tremendous stamina and efficacy that many learning disabled children develop as a means of coping with their deficiencies. A learning disabled adult can specialize and engage only in vocations commensurate with his or her talents and strengths. A teacher may point out these talents and strengths in the child.

Hopefulness

For the parent of a learning disabled child, hope is often a tentative, ephemeral emotion that arises as a result of clear directions. Factors such as projective planning, success reports of programs and schools, or success reports of learning disabled adults encourage parental hopefulness. A great source of hope originates from joining parent advocacy groups. These organizations will provide a medium for sharing information and coping with frustration. Hope also arises from the encouraging attitudes of a teacher. Hopelessness is one of the most debilitating emotions; hope the most profitable of any coping strategies.

A teacher may intervene by saying, "We can do something. We have ways to help. What your child needs is a program that has the following components...". Without a positive attitude little effort may result. However, care has to be taken not to build false hopes.

Frustration

Frustration emanates from hopelessness, helplessness, and lack of any observable success. While every parent inevitably experiences frustration when living with a learning disabled person, this feeling can be aggravated when the parent does not understand why many reliable behavior management or teaching strategies and theories do not seem to work for this particular child. Often there is a misconception about the permanence of the condition.

A teacher can help parents understand that this child learns differently and approaches need to be adapted to fit the particular profile of the child. Teacher and parent can explore together alternatives that seem more hopeful and more promising.

Anger

Anger is the result of a protective mechanism which arises when assertiveness is blocked and the parent feels affronted or otherwise discredited. It also arises from an overdose of frustrating experiences at home or in the school. One writer suggests that anger usually has three components. It can be defense against some intolerable feelings such as loss of self-esteem, guilt, or a sense of being inferior, or violation of what one considers one's rights and frustration of a desired expectation. The parent of a learning disabled child can become tremendously vulnerable and may defend himself or herself by being overtly aggressive, or by being passively aggressive (i.e., non-cooperative) at times.

A realistic assessment of anger may help teachers and parents find appropriate way to express the emotion.

School Aversion

Dislike of schools comes about as a result of aversive conditioning. Whenever a parent is invited to the school, he or she is likely to encounter many negative associations. Frequently he or she comes to discuss the problem child. If aversive conditioning continues for any length of time, the parent will avoid becoming involved and may no longer respond even to the invitation to attend parent-teacher interviews. Moreover, a strong aversive reaction can lead to the parent rejecting the child and isolating himself or herself from other people.

A teacher may respond by creating a climate of hope and encouragement, and may focus on some of the exciting attributes of the child to counteract negative conditioning.

In conclusion, we may allude to a number of additional emotions, and modifications or inflections thereof, which parents of learning disabled children experience such as mourning, depression, exasperation, overprotection or neglect, isolation,

embarrassment, blame, envy, neurosis, etc. Looking at parents' feelings in perspective, it becomes obvious that parents do not exist in isolation and that their environment may have a decisive influence on their experience and expression of feelings. The teacher will also feel these emotions because the strategies to deal with learning disabilities are from from perfect. Frustrataion with an inability to produce desired changes due to a lack of appropriate materials and strategies is a reality for the teacher as well as the parent. However, it is incumbent upon the teacher always to maintain a professional decorum.

How the Social and Personal Milieus Affect Parent Feelings

The parents' emotions and educational involvement may be affected by the unique social and family climate. One must consider factors such as child-rearing practices and philosophies, the value of education transmitted through generations, family size stability, and the general personal make-up when dealing with a particular parent.

Social Climate

Our culture's perception of mental dysfunction may have a devastating impact on the parents' feelings. For example, learning disabled children are often wrongly labelled as having subnormal intelligence, even though the concept and measures of intelligence are poorly understood. In a society that places a premium on education and intellectual competence, such labelling generates fear and panic in parents who may not be very familiar with the phenomenon of learning disabilities. Further, should the symptom-complex contain behavioral dysfunction or variations, parents and children are sometimes accused of being wicked, and/or subsequently rejected and isolated.

Child-Rearing Practice

Any child-rearing practice will necessarily require modification to address the unique needs and learning variations of the child. However, a parent who understands what a learning disability is will have a tremendous advantage when determining the most effective approaches for his or her child. The stringent child-rearing practices or theories

that advocate ultimate consistency will cause an enormous amount of frustration to the child and to the entire family, if the learning disabled child is unable to meet the demands placed upon him or her. Contingency contracting will not be successful with children who display poor social reinforceability and poor predictive reasoning.

Family Size and Stability

When building a partnership in education, parents and teachers need to be aware of family dynamics such as size and stability. A learning disabled child can provoke intense emotions in siblings. The learning and personality make-up of the siblings will influence the parents' feelings and educational objectives. Having a brother who learns without effort, who is a star in sports, and who does not understand how anyone can be so slow and clumsy, will create a high level of tension within the family. The reader is referred to Sabatino (1976), for additional information. A family faced with marital, financial, or health problems will focus their energies on survival and less on the learning disabled child.

Emotional Disposition and Personality Makeup

An incompatible personality structure will intensify the negative climate within the family and generate an insidious group of conflicts. When both parent and child are hyperactive, impulsive, and highly temperamental, and when a parent is faced with feelings of personal inadequacy and low self-worth, he or she will be hesitant about the prospect of becoming involved in the education of the child or communicating with teachers at a level where a true partnership would be beneficial. Parents with low educational status themselves may find the desperate efforts of their partners or professionals, aimed at ensuring that the learning disabled child receives appropriate services, personally degrading.

The various environmental and intrinsic impositions will affect parents feelings and will color their involvement with others. The teacher needs to be aware of these demands in order to determine the type of parent participation in schools most feasible.

Summary

The above has attempted to discuss some of the feelings and relationships that will affect the parents' involvement. A teacher who broadens his or her understanding of and sympathy for parents will be better able to create an atmosphere of trust and openness. This, one would hope, will lead to the parents' involvement in their child's education and to the fullest possible development of the child's learning abilities.

The above exposition is necessarily partial and superficial. The reader is referred to Kronick (1973, 1984) who provides a comprehensive view of parents' feelings.

Regardless of the reaction that parents may have to their child's learning disability, the teacher must be especially prepared to offer the required support when it is needed. It is often not until the formal schooling years that a diagnosis can be made or that the disability becomes apparent. The teacher is most often the only professional that parents feel they can turn to for support and information. In this case, the two most critical things for teachers to keep in mind is to be a good listener and to avoid making judgements or blaming parents.

In addition to dealing with their feelings and others' reactions, for parents there is the physically and emotionally draining task of everyday life with a handicapped child, with its incessant demands and no time off.

Kneedler, Hallahan, Kauffman, 1984, page 343

There are many roles that parents, and parents of exceptional children, in particular, must undertake in providing for their children. Teachers are urged to become aware of and respect the demands and multiple roles that parents face including manager, parents of non-handicapped siblings, spouse, educator, or significant others (e.g., relatives, storekeepers, neighbors) and school/community relations persons. Parents must still provide a nurturing environment for their child. They may be trying to develop alternate talents, maintain physical fitness, and develop

cultural or recreational interests in their child. They may be trying to balance school/remediation time with leisure time, which all children require.

Given this perspective, teachers who are interested in promoting parent-teacher involvement should avoid overburdening the parent who has responded positively to such an invitation. As well, teachers should recognize that parents may understandably feel that they do not have the time to get involved. For those parents who do express the interest or desire to become more involved in the educational program of their child, the teacher can be instrumental in making available information on possible types of involvement.

Summary for Parents of Learning Disabled Students

1. Make clear to the teacher the extent of your willingness to become involved with the school.
2. If you should desire to gain a better understanding of your child's learning disability, approach the teacher for advice on how to obtain such information.
3. If you are not satisfied with the progress of your child, request an interview with the teacher, and write out a list of your concerns for review at the meeting.
4. Ask the teacher for advice on home follow-up for educational or behavior management programs, and request assistance regarding materials and teaching procedures before starting such a program.
5. If you are interested in the general involvement of educational services in your child's school, consider volunteering your help or sitting on a parent advisory committee.
6. Consider joining a local learning disabilities group or parent training program to meet and to share experiences with parents who have children with similar problems, and to learn the functional skills to manage such problems.
7. Be aware of the child's right to receive the best education program possible and act on behalf of the child to ensure that the school is providing such.

Summary for Teachers of Learning Disabled Students

1. Be aware of the parents' perspective and appreciate the extra demands a child with learning problems may entail.
2. Avoid labelling parents as "overly concerned" or "busybodies". This only serves to create barriers to school/home relationship.
3. Convey your willingness to establish a parent/school partnership with parents, through promotion of two-way communication.
4. Become familiar with the resources within the school and community that may be helpful to the parents, and make this information available to them.
5. Critically assess the level of parent/school interaction at your particular school and work toward the continued development of such partnerships.
6. Consider initiating parent contact through the use of newsletters, telephone, notes, letters, or logs.
7. Make the most of parent/teacher conferences by careful pre-planning; by paying attention to conference goals and parents' ideas, attitudes, and feelings during the conference time; and by incorporating follow-up and evaluation procedures.
8. Be prepared to provide counsel to parents not only in terms of information about their child's problems, but in helping parents to cope with the emotional reactions and expressions of feelings.
9. Support efforts by the school and/or parent groups to establish parent education and parent training programs.
10. Utilize parental input for assessment and program planning.
11. Join your local Learning Disabilities Chapter.

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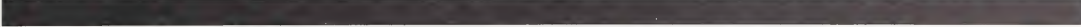
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Appendices



Appendix A

Survey of Student Behaviors



Survey of Student Behaviors

Taken from L. Whyte, *Effectiveness of Prescriptive Teaching for Exceptional Children*, University of Alberta, 1980.

Observation period from _____ to _____

Observer: _____

Child: _____ Sex: _____

Date of Birth: Day _____ Month _____ Year _____

School: _____

Teacher: _____ Grade: _____

Summary Profile of Behaviors

Directions:

For each disability included in the checklist and summary profile, a number of behaviors characteristic of a disability have been listed. The behaviors have been rated on a scale from 1 to 5: (1) the behavior never occurs, (2) rarely occurs, (3) occasionally occurs, (4) frequently occurs, and (5) is almost always present. If a child manifests several of the behaviors in an area, and if the behaviors occur frequently or are almost always present, circle the number on the scale in the area where the behaviors occur. Note only the areas of deficit. In this way, areas of disability will be readily apparent.

	Area of Disability	Scale				
Spatial-Temporal Disabilities	I. Motor Disability:					
	A. Gross motor problems:					
	1. Balance and coordination	1	2	3	4	5
	2. Body image	1	2	3	4	5
	3. Spatial relationships	1	2	3	4	5
	4. Body midline problems	1	2	3	4	5
	B. Fine motor problems					
	C. Motor praxis:					
	1. Ocular control	1	2	3	4	5
	2. Finger disabilities	1	2	3	4	5
	D. Problems of rhythm					
	II. Visual-Motor Integration Disability:					
	A. Eye-motor coordination					
		1	2	3	4	5

	Area of Disability	Scale				
Spatial-Temporal Disabilities (continued)	III. Visual Perception Disabilities:					
	A. Position in space	1	2	3	4	5
	B. Figure ground	1	2	3	4	5
	C. Visual closure	1	2	3	4	5
	D. Form perception	1	2	3	4	5
Memory-Sequencing Disabilities	I. Visual Memory and Sequencing	1	2	3	4	5
	II. Auditory Memory and Sequencing	1	2	3	4	5
Language Disabilities	I. Receptive and Expressive Language:					
	A. Auditory reception	1	2	3	4	5
	B. Vocal expression	1	2	3	4	5
	C. Visual reception	1	2	3	4	5
	D. Motor expression	1	2	3	4	5
	II. Inner-Language Disorders	1	2	3	4	5
	III. Grammar and Syntax	1	2	3	4	5
	IV. Auditory Imperception:					
	A. Auditory discrimination	1	2	3	4	5
	B. Auditory closure and figure ground	1	2	3	4	5
	C. Blending	1	2	3	4	5
Attention Related Disorders	I. Distractibility					
	A. Meticulosity	1	2	3	4	5
	B. Perseveration	1	2	3	4	5
	C. Distractibility	1	2	3	4	5
	II. Hyperactivity:					
	A. Motor hyperactivity	1	2	3	4	5
	B. Impulsivity	1	2	3	4	5
	C. Disinhibition	1	2	3	4	5
Sensory Acuity Disabilities	I. Auditory Acuity	1	2	3	4	5
	II. Visual Acuity	1	2	3	4	5

Survey of Student Behaviors

Taken from L. Whyte, *Effectiveness of Prescriptive Teaching for Exceptional Children*, University of Alberta, 1980.

Observation period from _____ to _____

Observer: _____

Child: _____ Sex: _____

Date of Birth: Day _____ Month _____ Year _____

School: _____

Teacher: _____ Grade: _____

Directions:

For each item in the checklist, rate the child by circling the number indicating the frequency with which the behavior is seen:

(1) never, (2) rarely, (3) occasionally, (4) frequently, (5) always.

Part One: Spatial-Temporal Disabilities

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
I. Motor Disability		
A. Gross Motor Problems:		
1. Balance and Coordination	Bumps into objects	1 2 3 4 5
	Trips over self	1 2 3 4 5
	Bumps into others	1 2 3 4 5
	Has difficulty with games requiring hopping and/or balance on one foot; e.g., hopscotch	1 2 3 4 5
	Has difficulty skipping, running, jumping rope, etc.	1 2 3 4 5
	Has difficulty using both sides of the body simultaneously or individually	1 2 3 4 5
	Generally clumsy and uncoordinated	1 2 3 4 5
	Must concentrate on body movement to the detriment of the task to be learned	1 2 3 4 5
2. Body Image	Has difficulty locating different parts of the body when asked to do so	1 2 3 4 5
	Makes distortions in the Draw-A-Man test	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
A. Gross Motor Problems (cont.)		
3. Spatial Relationships	Has difficulty judging distances in relation to himself	1 2 3 4 5
	Moves defensively or closes his eyes when an object such as a ball is moving towards him	1 2 3 4 5
	Has problems in dressing; e.g., clothes are put on backwards or inside out, shoes are placed on the wrong feet, buttons in wrong holes	1 2 3 4 5
	Becomes lost when going to and from school or when sent to another classroom	1 2 3 4 5
	Lateral dominance is inconsistent	1 2 3 4 5
	Has problems with directionality	1 2 3 4 5
	Has difficulty telling time or pacing himself when performing task or completing tasks in allotted time	1 2 3 4 5
	Is late for school; bus; coming in after recess, etc.	1 2 3 4 5
	Has difficulty organizing the steps in a task in a logical sequence	1 2 3 4 5
	Has difficulty with academic subjects; i.e., numbers in columns are misplaced	1 2 3 4 5
	Counting concepts involving words that denote space are not understood; e.g., before, after, between, in front of, beside	1 2 3 4 5
4. Body Midline Problems	Avoids crossing body midline with the hand	1 2 3 4 5
	Walks along as he writes on blackboard, rather than extend the hand and arm	1 2 3 4 5
	Cannot locate left and right on a person or an object placed opposite (this ability normally develops in children between 8 to 10 years)	1 2 3 4 5
	Has difficulty copying movements from top to bottom	1 2 3 4 5
	Starts writing in the middle of the paper	1 2 3 4 5
	Starts writing at the left margin but does not go beyond the mid-point	1 2 3 4 5
B. Fine Motor Problems		
	Has difficulty with tasks requiring grasping	1 2 3 4 5
	Has difficulty coordinating the first finger and thumb	1 2 3 4 5
	Has difficulty cutting, pasting, etc.	1 2 3 4 5
	Has difficulty holding crayon and pencil effectively	1 2 3 4 5
	Handwriting is poor	1 2 3 4 5
	Has difficulty tying shoelaces, buttoning buttons	1 2 3 4 5
	Clumsy with tools	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale					
C. Motor Praxis:							
1. Ocular Control	Excessive head movement when scanning	1	2	3	4	5	
	Has difficulty focusing visually	1	2	3	4	5	
	Has difficulty shifting focus from one object to another in the classroom	1	2	3	4	5	
	Head is tilted in an unusual fashion when doing close work	1	2	3	4	5	
	Eye movements when reading are jerky	1	2	3	4	5	
	Has difficulty participating in "tracking" games	1	2	3	4	5	
	Has difficulty making adjustment from seat to board work	1	2	3	4	5	
	2. Fingers	Has right-left disorientation problems	1	2	3	4	5
		Cannot name or locate the fingers of either hand	1	2	3	4	5
		Has difficulty using the fingers for counting	1	2	3	4	5
	D. Rhythm						
		Has difficulty with activities requiring rhythm; e.g., marching games, rhythm board	1	2	3	4	5
	II. Visual-Motor Integration Disability						
A. Eye-Motor Coordination	Has difficulty staying within lines when coloring or writing	1	2	3	4	5	
	In arithmetic computation, columns are incorrectly aligned horizontally and/or vertically	1	2	3	4	5	
	Easily loses place when reading	1	2	3	4	5	
B. Form Reproduction	Cannot perform with blocks and other toys requiring manipulation	1	2	3	4	5	
	May be able to discriminate among geometric forms and letters but is unable to use a pencil or crayon to reproduce them	1	2	3	4	5	
	Poor quality in written work, poor handwriting — illegible; malformed letters; runs words or parts of words together in copying	1	2	3	4	5	
	Cannot copy arithmetic problems correctly and is therefore unable to add, subtract, etc.	1	2	3	4	5	
	Poor written reproduction is also manifested as an inability to spell	1	2	3	4	5	
III. Visual Perception Disabilities							
A. Position in Space	Continues to mirror, reverse and/or rotate letters, numbers, words, or other forms in both reading and copying after age eight	1	2	3	4	5	

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
B. Figure Ground	Has difficulty attending to task	1 2 3 4 5
	Distracted by extraneous visual stimuli	1 2 3 4 5
	Seldom finishes work	1 2 3 4 5
	Becomes very confused when a page contains a great deal of writing	1 2 3 4 5
	Written work is disorganized	1 2 3 4 5
	Poor word recognition	1 2 3 4 5
	Has difficulty recognizing figures when one is presented within another	1 2 3 4 5
C. Visual Closure	Is excessively slow in visual work and frequently does not complete assignments	1 2 3 4 5
	Studies pictures or words for a long time	1 2 3 4 5
	Does not derive information from partial visual clues, sketches, or pictures drawn from stick figures	1 2 3 4 5
	Has difficulty doing puzzles with more than ten pieces	1 2 3 4 5
	Has difficulty understanding dot-to-dot drawings	1 2 3 4 5
	Has difficulty blending letters into words visually	1 2 3 4 5
	Has difficulty understanding letters printed in a style differing from that generally used	1 2 3 4 5
	Relationships between letters such as "m" and "n" are not seen	1 2 3 4 5
	Has difficulty putting scrambled letters together to form a word, even though the whole word is known	1 2 3 4 5
D. Form Perception	Has difficulty in matching shapes, letters, etc.	1 2 3 4 5
	Arithmetic disability: Seems unable to benefit from manipulation of concrete material; confuses signs such as +, -, ×, ÷, but may be able to perform the operation when he is told the sign	1 2 3 4 5
	Reading disability: Unable to discriminate letters or use configuration as a word attack skill	1 2 3 4 5
	Has difficulty discriminating similar words such as pen, pin	1 2 3 4 5
	Has difficulty recognizing the upper and lower case forms of letters, or distinguishing among letters composed of the same elements; e.g., V, W	1 2 3 4 5
	Uses a mixture of upper and lower case letters when writing	1 2 3 4 5
	Pays no attention to punctuation	1 2 3 4 5
	Recognizes a word in one context but not when it is used in a new situation	1 2 3 4 5

Part Two: Memory/Sequencing Disabilities

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale				
I. Visual Memory and Sequencing						
A. Memory	Has difficulty remembering what he has seen or has been shown	1	2	3	4	5
	Cannot visualize symbols in his “mind”, although he may recognize the symbol when it is presented to him	1	2	3	4	5
	Cannot remember how to spell his name	1	2	3	4	5
	Has difficulty acquiring a sight vocabulary	1	2	3	4	5
	When writing from copy, must make a letter for letter match rather than writing whole words	1	2	3	4	5
B. Sequencing						
	Remembers the letters in a word but gets them in the wrong order; e.g., tlod for told, cta for cat	1	2	3	4	5
	Remembers the events in a story, film, etc., but not the sequence	1	2	3	4	5
	Cannot participate in games involving a sequence	1	2	3	4	5
	Cannot remember sequences such as landmarks between his home and a school	1	2	3	4	5
	Counting is incorrectly sequenced	1	2	3	4	5
	Confuses sequences in tasks such as the order in which to dress	1	2	3	4	5
	Confuses sequences in tasks in art, physical education, etc.	1	2	3	4	5
II. Auditory Memory and Sequencing						
A. Memory	Cannot count by rote	1	2	3	4	5
	Does not remember his address, telephone number, etc.	1	2	3	4	5
	Does not know general information such as days of week, months and seasons of the year	1	2	3	4	5
	Oral recall for spelling is poor	1	2	3	4	5
	Oral recall for arithmetic combinations is poor	1	2	3	4	5
	Cannot memorize poems, songs, etc.	1	2	3	4	5
	Cannot remember oral directions	1	2	3	4	5
	Cannot remember experiences in the immediate past	1	2	3	4	5
	Cannot recall the names of letters, objects, sounds made by common objects	1	2	3	4	5
	Has difficulty retrieving words for use in speaking	1	2	3	4	5
	Substitutes gestures or descriptive phrases for words he cannot recall or to make wants known	1	2	3	4	5
	Recognizes words but cannot retrieve them from memory	1	2	3	4	5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale				
B. Sequencing	Knows days of the week, etc., but cannot recall the sequence	1	2	3	4	5
	Reverses word order when reading	1	2	3	4	5
	Transposes sounds in words; e.g., pasghetti for spaghetti	1	2	3	4	5
	May remember oral directions but not their sequence	1	2	3	4	5
	Sequences sounds or syllables oddly	1	2	3	4	5

Part Three: Language Disabilities

I. Receptive and Expressive Language

A. Auditory Reception	Seems to be less intelligent than IQ tests indicate	1	2	3	4	5
	Can "do" more things than one would expect, e.g., put puzzles together, use abacus for computation	1	2	3	4	5
	Watches teacher's face intently trying to lip read	1	2	3	4	5
	Is inattentive when oral presentations are being made by other children	1	2	3	4	5
	Does not listen to conversations between adults or adults and children	1	2	3	4	5
	Has difficulty understanding abstract words but may have a good "concrete" vocabulary	1	2	3	4	5
	Has difficulty describing differences/similarities	1	2	3	4	5
	Cannot carry out directions given orally by teacher or on tape recorder, etc.	1	2	3	4	5
	Follows instructions better after being shown rather than told	1	2	3	4	5
	Has difficulty with reading comprehension exercises and/or answering questions from stories read to him or her	1	2	3	4	5
	Likes to look at "picture" books but does not like to have stories read	1	2	3	4	5
	Can solve arithmetic problems presented in written form but not from oral presentation	1	2	3	4	5
B. Vocal Expression	Seems shy, rarely talks in class	1	2	3	4	5
	Responds in one word sentences	1	2	3	4	5
	Defines and/or uses words concretely, that is, by characteristic or use rather than by classification	1	2	3	4	5
	Raises hand but gives a foolish answer	1	2	3	4	5
	Talks a lot but expresses few ideas	1	2	3	4	5
	Has difficulty expressing himself or herself in complete sentences	1	2	3	4	5
	Written expression is poor	1	2	3	4	5
	Silent reading may be better than oral	1	2	3	4	5
	May do better with written arithmetic computation than with oral	1	2	3	4	5
	Has difficulty participating in choral work	1	2	3	4	5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
C. Visual Reception	Does not get enjoyment from looking at picture books	1 2 3 4 5
	Does not get information from pictures; e.g., does not see what is funny in a picture	1 2 3 4 5
	Does not seem aware of visual clues in tasks such as finding the way about the school, or to and from school	1 2 3 4 5
	Seems unaware of visual differences and similarities	1 2 3 4 5
	Has difficulty making comparisons involving visual information; e.g., differences in size, distance, shape, etc.	1 2 3 4 5
	Performs better when he or she has been told rather than shown	1 2 3 4 5
	Has difficulty making social judgements involving non-verbal relationships	1 2 3 4 5
D. Motor Expression	General inability to express himself or herself manually; e.g., imitation of movements or demonstration of how simple objects are used; pantomime; charades; finger play	1 2 3 4 5
	May have difficulties with fine and/or gross motor coordination	1 2 3 4 5
	Unable to draw the human figure	1 2 3 4 5
	Unable to combine a sequence of movements	1 2 3 4 5
	Clumsy and awkward, manifests many of the characteristics described under motor disabilities	1 2 3 4 5
	Tends to avoid group activity, particularly in the playground	1 2 3 4 5
	Tends to be easily discouraged when asked to produce written work	1 2 3 4 5
	Gives the appearance of being tense when asked to produce written work	1 2 3 4 5
II. Inner-Language Disorders	Does not participate in imaginative play, e.g., playing store, house, etc.	1 2 3 4 5
	Does not generate imaginative and creative play, at work, written stories, oral stories, etc.	1 2 3 4 5
	Does not play with toys which require him or her to build; e.g., construction blocks	1 2 3 4 5
	Cannot understand rules for playing games	1 2 3 4 5
	Has difficulty with riddles or guessing games	1 2 3 4 5
	Storytelling is incoherent	1 2 3 4 5
	Does not understand why or how things happen	1 2 3 4 5
	Has difficulty understanding relationships, whether complex, such as family relationships, or simple, such as why objects belong together	1 2 3 4 5
	Has difficulty giving opposites, making classifications, telling how things go together, etc.	1 2 3 4 5
	In reading readiness activities, is unable to detect the distractor which belongs or does not belong	1 2 3 4 5
	Meaningful sequences are not understood	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
III. Grammar and Syntax	Sentence structure is simple and lacking in variety	1 2 3 4 5
	Sentences are short	1 2 3 4 5
	Words are omitted and/or order is distorted	1 2 3 4 5
	Uses telegraphic speech; e.g., "Mommy - Daddy - Billy - go - picnic"	1 2 3 4 5
	"Dodges" words; e.g., here is a child, here are two _____ (kids)	1 2 3 4 5
	Uses possessive incorrectly; e.g., "This is mine doll"	1 2 3 4 5
	Uses pronouns incorrectly; e.g., "Me do that"	1 2 3 4 5
	Uses plurals incorrectly; e.g., womans, sheeps	1 2 3 4 5
	Uses verb tenses incorrectly; e.g., "I done my work"	1 2 3 4 5
	Uses incorrect verb tense forms; e.g., "I runned"	1 2 3 4 5
	Asks questions (correct information) but does not use question sentence structure	1 2 3 4 5
	Does not use correct verb endings for past and progressive tenses	1 2 3 4 5
	Uses negatives incorrectly; e.g., "I not do that"	1 2 3 4 5
	Uses comparatives incorrectly; e.g., "This is gooder"	1 2 3 4 5
	Confuses preposition; e.g., in for on	1 2 3 4 5
<hr/>		
IV. Auditory Imperception		
A. Discrimination	Cannot discriminate between gross sounds; e.g., car noise and telephone noise	1 2 3 4 5
	Cannot discriminate fine differences in everyday sounds; e.g., telephone bell and doorbell	1 2 3 4 5
	Cannot discriminate fine differences in words; e.g.: initial consonants	1 2 3 4 5
	short vowels	1 2 3 4 5
	long vowels	1 2 3 4 5
	Confuses words which sound similar	1 2 3 4 5
	Has difficulty with pitch, intensity, frequency	1 2 3 4 5
	In general, has difficulty using phonics for:	
	spelling	1 2 3 4 5
	word analysis	1 2 3 4 5
	<hr/>	
	B. Closure and Figure Ground	
	Easily distracted by competing auditory stimuli	1 2 3 4 5
	Cannot concentrate when there is a noisy background; e.g., street noises, other children are noisy	1 2 3 4 5
	Cannot locate the source of sound	1 2 3 4 5
	Has difficulty recognizing voices	1 2 3 4 5
	Has difficulty understanding people with different accents	1 2 3 4 5
	Has difficulty understanding material with static in the background; e.g., a noisy tape	1 2 3 4 5
	Manifests hyperactive, distractible behavior	1 2 3 4 5
	Focuses attention everywhere but on his own work	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
C. Blending	Cannot make use of phonetic clues	1 2 3 4 5
	Has difficulty with rhyming words	1 2 3 4 5
	Cannot blend sounds into syllables and words	1 2 3 4 5
	In general, has difficulty acquiring phonic skills	1 2 3 4 5

Part Four: Attention Related Disorders

I. Distractibility

A. Meticulosity	Produces work which varies in quality	1 2 3 4 5
	Cannot begin to work until everything is in a specific place	1 2 3 4 5
	Turns in papers that are dirty	1 2 3 4 5
	Erases frequently	1 2 3 4 5
B. Perseveration	Has difficulty shifting from one task to another	1 2 3 4 5
	Attends for inappropriately long period to a visual stimulus	1 2 3 4 5
	Attends for inappropriately long period to a sound	1 2 3 4 5
	Continues an activity when no longer appropriate; e.g., continues counting after the number of objects to be counted is exhausted	1 2 3 4 5
	Repeats a word over and over	1 2 3 4 5
	Repeats an incorrect response, even after several corrections	1 2 3 4 5
	In arithmetic adds (or subtracts) all problems even though he or she can distinguish operator signs and may know both processes	1 2 3 4 5
	Recognizes an error, erases it, and repeats the error	1 2 3 4 5
C. Distractibility	Has short attention span; that is, cannot stay occupied with one activity for more than a few minutes	1 2 3 4 5
	Distracted by extraneous visual stimuli	1 2 3 4 5
	Cannot keep hands off objects not relevant to the task at hand	1 2 3 4 5
	Compulsively attracted to non-essential details, rather than the total activity	1 2 3 4 5
	Responds to directions given to other children; e.g., children in another reading group	1 2 3 4 5
	Has difficulty sitting still	1 2 3 4 5
	Has difficulty standing still	1 2 3 4 5
	Wanders off while being spoken to or instructed	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
II. Hyperactivity		
A. Hyperactivity	Excessive restlessness; e.g., makes tapping, scuffing noises with fingers and/or feet	1 2 3 4 5
	Inattentive; i.e., is unable to maintain attention	1 2 3 4 5
	Short interest span	1 2 3 4 5
	Has difficulty modulating activity level, particularly when expected to perform an abstract academic task	1 2 3 4 5
	Unable to persist at an abstract task	1 2 3 4 5
	Excessively active in situations requiring motor inhibition	1 2 3 4 5
	Leaves seat constantly to wander around the classroom	1 2 3 4 5
	Remains in seat but fidgets constantly	1 2 3 4 5
	Frequent misconduct, particularly in the classroom	1 2 3 4 5
B. Impulsivity	Goes headlong into tasks without stopping to think	1 2 3 4 5
	Darts from one activity to another without forethought	1 2 3 4 5
C. Disinhibition	Cannot stop or control himself or herself	1 2 3 4 5
	Low tolerance for frustration	1 2 3 4 5
	Attention to things in the present is disrupted by thoughts of past experience or future anticipation	1 2 3 4 5
	Attention is fleeting	1 2 3 4 5
	Sensitive to stress and often anxious, particularly when doing academic tasks	1 2 3 4 5
	Gives inappropriate or unrelated answers	1 2 3 4 5
	Disturbs others, often gets into fights	1 2 3 4 5
	Speaks out of turn	1 2 3 4 5
	Frequent temper outbursts, tantrums	1 2 3 4 5

Part Five: Sensory Acuity Disabilities

I. Auditory Acuity	Seems not to pay attention when the teacher is speaking	1 2 3 4 5
	Does not hear information presented over the P.A. system	1 2 3 4 5
	Cannot hear when the speaker's face is hidden	1 2 3 4 5
	Consistently turns head towards speaker trying to hear	1 2 3 4 5
	May cup ear trying to hear	1 2 3 4 5
	Cannot follow directions, asks for repetitions	1 2 3 4 5
	Asks to sit near the teacher's desk	1 2 3 4 5
	May be restless, behavior is poor	1 2 3 4 5
	May complain of earaches	1 2 3 4 5

Specific Area of Disability	Behavioral and/or Academic Manifestation of the Disability	Scale
II. Visual Acuity	Complains cannot see the blackboard	1 2 3 4 5
	Tires easily when doing visual work	1 2 3 4 5
	Holds book very close to or far away from eyes, or in any other unusual fashion	1 2 3 4 5
	Blinking, redness, tears, inflammation of eyes	1 2 3 4 5

Appendix B

Annotated Bibliography of Psycho-Educational Tests

Annotated Bibliography of Psycho-Educational Tests

Individual Intelligence Tests

Individual intelligence tests are designed for use by individuals who have received supervision and training in their administration and interpretation. The tests of intelligence are many. Psychologists select IQ tests that yield useful, reliable, and valid information, relevant to the teacher's inquiry. Teachers should be familiar with concepts such as mental age, verbal IQ, performance IQ, and confidence intervals when talking with psychologists and parents. Furthermore, IQ scores only reflect relative standing in a group on which the test was standardized. IQ scores vary from time to time and year to year since performance on these tests is related to achievement, personal adjustment, health, and socio-economic factors. Remember, too, that IQ tests assess only a limited area of the cognitive abilities. Therefore, it is advisable that other tests (social, perceptual, memory, achievement, self, etc.) also be given to ensure that a complete picture of the child's personality becomes available.

The Binet, WISC-R, WAIS-R, WPPSI, are all familiar to diagnosticians. Any one test will measure general ability. All the tests measure overall intelligence and the Wechsler Scales measure verbal and non-verbal factors. The following intelligence tests are recommended as they all possess reliability and validity.

Teachers should request from their school psychologists a briefing on the nature and measurement of intelligence, and on the types of tests used by psychologists.

Adaptive Behavior Scales - Public School Version (AAMD)

To be used with children ages 7 to 13 (grades 1 to 6), in obtaining a measurement of adaptive functioning in areas of autonomy, interpersonal adjustment, social responsibility, and intrapersonal stress. Parents or teachers can fill it out. Adequate reliability (internal consistency) and validity data (correlations with IQ, factor analysis).

Useful for determining areas of social/emotional remediation. Useful in the elementary grades. Not to be used with children who have physical handicaps or who have not had the opportunity to learn adaptive behaviors.

A standardized schedule measuring level of social competence from birth to maturity. In childhood, items report self-help skills; in adolescence, items pertain to self-direction; and in adulthood, items reflect assumption of responsibility. The schedule is completed by guided interview with parents or with the older individuals themselves. A qualified examiner is needed here, usually a psychologist or nurse. Useful for interviewing and counselling purposes. Valuable for user because of the wide age-range.

Myklebust Pupil Rating Scale - Screening for Learning Disabilities Utilities (7 to 10 years) (Grune and Stratton, 1971) (Revised edition)

Five areas of observation are rated: auditory comprehension, spoken language, orientation, motor coordination, and personal/social behavior. An easily administered screen test, for children ages 7 to 10 years. Statistical manual shows scores that differentiate learning disabled students from normal students. Could be used with children in grades 1 and 2 as well. The teacher is asked to complete the questionnaire. Quick administration time.

Screening Tests for Identifying Children with Specific Language Disability (Revised Edition) - (Slingerland)

These tests identify probably perceptual-motor difficulty: visual, auditory, or kinesthetic. They can be administered individually or to groups. There are eight tests using visual-motor, perceptual-motor, kinesthetic, and auditory-memory patterning activities: uses 21 scores for each test, plus an optional test for echolalia. The tests are based on the assumption that learning difficulties characterized by poor use of language and inadequate performance of some perceptual-motor skills may result in failure to achieve adequate progress in acquiring basic school skills. There is inadequate re-norming.

Raven's Standard Progressive Matrices (Standard and Colored Form)

A non-verbal estimate of ability relatively free from cultural bias. Can be presented without verbal instruction. Norms presented for ages 6 to 65. Useful for minority groups, bilingual students, or those suffering from physical handicaps. The scale consists of 60 problems divided into five sets of 12, in order of difficulty. High test-retest reliability and high correlations with other intelligence tests. Adequate validity. Can be completed in 20 minutes, but most individuals take 45-60 minutes. Easily scored.

Metropolitan Readiness Test (Harcourt Brace-Jovanovich)

Useful measure of pre-reading skills emphasized in kindergarten and beginning grade one (Level I to ECS; Level II to Grade 1). Level I assesses auditory memory, rhyming, letter recognition, visual matching, school language and listening, and quantitative language. Level II measures knowledge of beginning consonants, sound-letter correspondence, visual matching, listening, simple arithmetic, and school language. Raw scores are translated into percentile ranks, stanines, and a general performance rating. Testing time (for teachers) is approximately one hour and the test can be group administered. Moderate validity data (County of Strathcona) in terms of predictive validity. Measures important skills in beginning reading and mathematics.

Test of Cognitive Skills (McGraw-Hill)

An excellent system wide test of aptitude for grades 2 to 12, in areas of sequences, analogies, memory, and verbal reasoning — group administered, within 30-60 minutes. The above constructs are considered relevant for success in an educational program. Adequate reliability/validity data presented in the manual. Special education students were part of the standardization sample. Very useful when administered with the Canadian Achievement Test since anticipated achievement scores can be calculated.

Canadian Test of Basic Skills

A Canadian version of the Iowa Test of Basic Skills. Administered only to grades 3 to 8. Grade equivalents and stanines available. Measures the range of achievement areas. Can be group administered in 2 1/2 to 3 hours. Adequate reliability and validity. Tends to overestimate grade standing. Teachers dissatisfied with some of the content items. In use across the province.

Canadian Achievement Test (McGraw-Hill)

Measures achievement of students from grades 1 to 12. A new test, easy to use, permitting increased coverage of Canadian content and current material at a particular grade level. Group administered. Testing time is 2 1/2 to 3 hours. Standardization completed in 1981. Adequate reliability/validity data. Has the advantage in reporting not only individual, group, and system scores, but also detailed analysis of performance objectives for each student and for every test item. When administered with the Test of Cognitive Skills, anticipated achievement scores will be made available, thus facilitating identification of learning disabled students on the achievement-ability discrepancy aspect of the definition.

McCarthy Scales of Children's Abilities

Published in 1972, this test is well-standardized and psychometrically sound. Useful for ages 2 1/2 to 8 1/2 and takes 40-50 minutes to administer. In addition to providing a General Cognitive Index (GCI), a profile of abilities in other conceptual areas is available (verbal, non-verbal reasoning, number aptitude, short-term memory, and coordination). The McCarthy has the same mean and standard deviation as the Binet (100, 16 respectively). Scores, however, are not equivalent to Binet or WISC-R. Useful for processing strengths and weaknesses. Materials are well-constructed, the guidelines for testing thorough. Restricted for use by qualified psychologists.

Kauffman Assessment Battery for Children (ECS to ABC)

A test to measure information-processing style, mainly simultaneous vs successive. Ages 2 1/2 to 12 1/3 inclusive, the test takes 45 minutes for pre-schoolers and 70-75 minutes for school-aged children. Still a very new test, but useful in terms of planning remedial strategies based on strong and weak processing styles. An achievement scale is also included. Adequate reliability/validity data. Psychoneurological theory and research base for the development of this test are provided. Detailed manual. Easy to administer. Restricted for use by certified psychologists and individuals with training in its use.

Developmental Test of Visual-Motor Integration (Beery) (Follett Publishing Co.)

Useful for ages 5 to 15, and can be quickly administered by psychologists or reading specialists. The test provides a sequence of 24 forms for copying, in increasing complexity. Each form has developmental characteristics. 1981 norms should be used. Adequate reliability/validity data. A test of visual-motor integration reflects development in this area only. Structured nature of the test precludes significant clinical observation.

Bender Visual-Motor Gestalt Test (Koppitz)

Although norms are available for children and adults, the test is mainly used for students in the 5 to 10 year age range. Nine forms are copied on 8 1/2 x 11 inches blank paper. A thorough clinical scoring system is available. The test also serves as a good "ice-breaker", since students are not threatened by it. Assessment of visual-motor perception, but emotional indicators can also be scored. The test provides a rich medium for observing behaviors (time on task, planning and organization, frustration tolerance, scanning of visual data, repetition, and re-drawing, etc.). A useful clinical tool. Can be administered by teachers but interpreted only by qualified, trained individuals.

Frostig Development Test of Visual Perception (DTVP)

A non-verbal test designed to evaluate visual perception in children ages 3 to 9 years. Five subtests are included: eye-to-hand coordination; figure ground; form constancy; position in space; and perception of spatial relationships. The test is a general measure of visual perception but is not useful in predicting reading readiness or skill. Individual subtests do not show sufficient reliability to permit remedial programs and types of remediation to be administered based on results from this test alone. Some investigations have found the Frostig Program to improve visual perceptual skills per se, but these skills do not seem to generalize to other subject areas. To be used by teachers or trained specialists.

Wepman Auditory Discrimination Test

Measures children's abilities to hear differences in phonemes: 40 word-pairs, matched for familiarity, length, and phonetic category are presented. No information available on the norm group. Useful for children ages 5 to 10. Can be used diagnostically, but even here it suffers from lack of proper discrimination. Attempts to validate the test have shown that poor scores are correlated with poor reading ability and below average IQ. Useful as a crude test of auditory discrimination. Often administered by special education teachers or psychologists.

Goldman-Fristoe-Woodcock Test of Auditory Discrimination

A standardized measure of speech-sound discrimination for children ages 4 to adult. Measures are obtained under ideal conditions and through controlled background noise. Words are presented by cassette tape. Easy to administer and score but psychometric properties are less than adequate. Helpful as a crude measure of auditory discrimination, but only those who truly have auditory difficulties will be diagnosed with this test. Administered by trained individuals including teachers.

Denver Developmental Screen Test (DDST)

Developed in 1975 and designed as an aid in identifying delays in development and behavior from birth to 6 years of age. Useful as a screen but not as a substitute for diagnostic testing. Four areas of development are rated: personal-social, fine motor, language, and gross motor. Requires little experience to administer. Attempts to validate the test have shown that it has poor reliability and validity, although an intelligence test was used to validate the instrument. Can be administered by teachers, nurses, psychologists, or social workers.

Visual-Aural Digit Span Test (VADS)

Developed by Koppitz in 1977 to measure, in a standardized fashion, aural and visual short-term memory for children ages 5 1/2 to 13 years of age. The child must be able to read and write numbers. Additional scoring provides indices for inter- and intra-sensory integration: aural-oral, visual-oral, aural-written, and visual-written. Testing time is approximately 30 minutes. Scoring is simple. More studies are needed to confirm reliability and validity. Koppitz suggests that the overall score will differentiate between high, average, and low test performance. The VADS yields eleven different scores but adequate reliability is available for the Total Score only. It is individually administered, given by trained individuals.

Key-Math Diagnostic Arithmetic Test

An untimed, individually administered diagnostic test in mathematics, standardized from ECS to grade 7 for content. All major mathematics concepts are tested yielding 14 subtest scores. Scores are further divided into four diagnostic levels (total test, area, subtest, and item performance). Useful in allowing teachers to select appropriate materials for specific mathematics areas. Reading is not required and test time is approximately 30 minutes. Useful for assessment of arithmetic deficiencies. Adequate reliability/validity data. Usually administered by diagnostic specialists but easy to use and can be administered by teachers.

Woodcock-Johnson Psycho-Educational Battery

A very comprehensive, individually administered test of cognitive ability and achievement for ages 3 to adult. Interest testing is included in the battery. Total testing time exceeds two hours. Adequate reliability/validity data. Cognitive ability scores are not recommended as interchangeable with WISC-R, Binet, or WAIS-R scores. An aptitude profile is also available. Comprehensive in its assessment of all major subject areas in school. Standard scores, percentile ranks, and grade-level scores are available in a clearly written manual. Usually administered by curriculum specialists, counsellors, or psychologists.

Peabody Individual Achievement Test (PIAT)

Developed with the new norms in 1970, it is an individually administered test of achievement taking 30-40 minutes to test. It covers mathematics, reading recognition and comprehension, spelling, and general information for grades ECS to 12. Grade equivalents, percentile ranks, and standard scores are available for each set of five subtests. Reliability coefficients are low, but confidence can be placed in the total score. Since a multiple choice format is used in three of the five subtests, some children can be assessed who could not otherwise be tested. Useful for educable mentally handicapped students. Not as comprehensive a test of achievement as the Woodcock-Johnson, but shorter testing time makes it preferable for use where time is a factor.

Wide Range Achievement Test - Revised

A brief, individually administered achievement test for reading, spelling, and arithmetic for ages 5 1/2 to adult. Reading recognition is measured in the reading test. The 1978 version provides new scaling for grade equivalents, standard scores, and percentiles. Testing time is short, 20-30 minutes. Useful as a screening device and as a diagnostic tool, since the examiner can find many useful behaviors and answers to note while testing. Adequate reliability/validity data available, but is questioned in recent

literature. Whereas Sattler states that scores are underestimates, Alberta studies indicate that our children provide scores that usually overestimate their achievement. When standard scores (same mean and standard deviation as the WISC-R) are compared to WISC-R scores, indications of acuteness (new problem) and chronicity (long-standing problem) of learning problems can be estimated. Teachers can administer this test, but diagnosticians trained in interpretation will find additional useful information.

Metropolitan Achievement Test

The 1978 edition is an extension of the early 1930 test. Provides norm-referenced and criterion-referenced data for grades ECS to 12 with testing time of 1 1/2 to 3 hours. It is useful as a screen and as a test to evaluate programs. Scores in reading, mathematics, language, science, and social studies are available. The test shows adequate technical properties. When used as an instructional battery, areas of skill developed can easily be identified. Administered by teachers or counsellors.

Stanford Achievement Test

A norm-referenced and performance-objective referenced test of achievement in all school subject areas for grades 1 to 12. Three forms are available (A,B,C) at six levels. Comprehensive in nature with excellent psychometric properties. Useful as a screen and for evaluation purposes. The downward extension of this test, the Stanford-Early Achievement Test, is equally useful for the ECS to grade 3 range. Administered by teachers or counsellors.

Stanford Diagnostic Reading Test

A 1977 edition measuring specific reading skills (auditory, vocabulary, auditory discrimination, phonetic analysis, structural analysis, word reading, and comprehension), with levels geared to grades 1 to 12. The test can be used normatively and diagnostically. Teachers can easily administer the test in less than one hour. Specific instructional objectives for each level of the test are available in the manual. Can be group administered. Well standardized and reliable. Validity must be assessed in relation to the content of local curricula. Usually administered by teachers.

Stanford Diagnostic Mathematics Test

A group-administered test for teachers, both norm and criterion referenced. Basic concepts and operations in mathematics skills are assessed in grades 1 to 12. Although grade scores, percentiles, and stanines are presented, progress indications are more useful diagnostically to determine areas of intervention. Excellent reliability. Validity estimates depend on local content relevant to the curriculum.

Feuerstein Learning Potential Assessment Device (LPAD) (Adolescent Range)

This kit provides the teacher or diagnostician with tasks for the child to perform to train thinking skills. The device is content-free, meaning that the tasks are not related to any specific subject area. It is an untimed test. It measures current performance as well as the student's potential for learning. It is especially useful for handicapped and disadvantaged adolescents. Special training is required along with a high degree of clinical skill.

Brigrance Diagnostic Inventory of Basic Skills (ECS to Grade 6)

An untimed test, with a criterion and norm referenced inventory which assesses basic readiness and academic skills. A criterion for accuracy and objectives in individual programming is suggested for each skill. The student's record book allows for detailed charting of progress.

Boehm Test of Basic Concepts (ECS to Grade 2)

This test measures mastery of concepts related to time, space, direction, and quantity. Useful as a diagnostic screen of readiness for reading and concept development. Testing time is 30-40 minutes.

Brigrance Inventory of Early Development (Birth to 6 years)

Contains items pertinent to a developing child in areas of speech, motor development, language, social development, attention, and so on. Useful as a screen to determine if further diagnosis is needed. Testing time is 30-60 minutes.

Stanford Early School Achievement Test (ECS to Grade 2)

This test takes 1 1/2 to 2 hours to administer. It assesses knowledge of the environment, arithmetic skills, letters, sounds of letters, and aural comprehension. Word and sentence reading area included at the grade 1 or 2 level.

Benton-Visual Retention Test (8 to adult)

A quick test, 5-10 minutes, assessing memory, perception, and visual-motor integration skills. The individual is asked to copy 10 designs following a 5-10 second exposure. Useful as a diagnostic screen for possible brain injury. To be used only by a trained individual.

Watkins Bender-Gestalt Scoring System (7 to 11 years)

A method of scoring the Bender-Gestalt drawings to identify visual-perceptual problems. The scoring system and norms are applicable specifically to complete learning disabled with normal controls. Scoring directions are available in English and Spanish. To be used only by a trained individual.

Expressive One-Word Picture Vocabulary Test (2 to 12 years)

A twenty minute test designed to estimate a child's verbal ability, determine problems in speech, expressive, and receptive language. A series of 110 pictures is presented and the subject is asked to name each one. Pictures represent abstract as well as descriptive concepts. Useful to determine readiness for Early Childhood Services programs or grade 1.

Picture Story Language Test (7 to 17 years)

This quick test, 20-40 minutes, measures writing development in children and adolescents. It is a diagnostic instrument designed to assess language disorders and specific language disabilities.

Basic Sight Words Test (Dolch) (6 to 8 years)

An untimed diagnostic test designed to assess sight word recognition of 220 basic words, developed by Dolch.

Botel Reading Inventory (Grades 1 to adult)

This test takes 1 1/2 to 2 hours to administer. It is an individual reading test designed to assess areas such as word recognition, listening, phonics, and spelling. The teacher can use this test to determine reading level.

Gates-MacGinitie Reading Tests (Grades 1 to 9)

A one hour group of tests consisting of six different levels (grades 1, 2, 3, 2-3, 4-6, and 7-9). Assesses speed and accuracy of reading as well as vocabulary development and comprehension.

Metropolitan Reading Test (Grades 2 to 9)

A one hour test. Useful because of its range (grades 2 to 9). This test is a section of the Metropolitan Achievement Test. It is designed for group administration. Paragraph reading and vocabulary levels are scored. Useful to determine reading errors.

Informal Reading Inventory - IRI (Preschool to adult)

A test useful at many age levels. Quick to administer, 20-30 minutes. Diagnosis of oral reading levels based on word analysis skills. Comprehension is also assessed at each level and for every paragraph read.

Woodcock Reading Master Tests (Grades ECS to 12)

Five individual tests yielding separate scores and a total score. Tests include letter identification, word attack, word identification, and passage comprehension. This is a criterion-referenced test but group norms adjusted for socio-economic status are available. Test time is approximately one hour.

Durrell Analysis of Reading Difficulty (Grades 1 to 6) (Revised Edition)

Thirteen subtests, including oral and silent reading tests, comprehension, word recognition, word analysis, visual memory of words, hearing sound in words, phonic spelling of words, and handwriting. Useful for less severely disabled children. The testing time is 30 minutes to 1 1/2 hours.

Gates-McKillop Reading Diagnostic Tests (Grades 1 to 6)

A 30-40 minute diagnostic test, a revision of the Gates Reading Diagnostic Tests. It is individually administered and yields 28 scores including oral reading, word and phrase perception, letter sound, naming letters, auditory blending, spelling, and syllabication. Although lengthy, it provides useful diagnostic information.

Gilmore Oral Reading Test (Grades 1 to 8)

A 15-30 minute, individually administered test consisting of 10 paragraphs. Diagnostic information includes comprehension, speed, accuracy, and errors in reading (substitutions, insertions, omissions).

Gray Oral Reading Test (Grades 1 to College)

A 10-20 minute test useful as a wide age range. Thirteen graded passages are presented. Measures growth in oral reading and yields useful diagnostic data to assist placement of students in reading groups.

Slosson Oral Reading Test (SORT) (Revised Edition) (Grades 1 to Adult)

A quick 5 minute test to determine progress in oral reading. Also measures ability to pronounce words at different difficulty levels. Can be used repeatedly to determine growth. Test-retest coefficient is 0.99 so it has consistency. Teachers may find this one useful as a quick test-retest measure of oral reading.

Informal Spelling Inventory - Form F (Grades 1 to 8)

A 10-15 minute test, used by teachers or specialists to measure spelling ability. Words are dictated. Error analysis follows administration. Useful in Phase 2, teacher assessment phase.

Spelling Inventory with Sentences - Form A (Grades 1 to 8)

A 20-30 minute test used by teachers or diagnosticians, measuring ability to spell words in sentences rather than in isolation. Error analysis follows.

Test of Written English (Grades 1 to 8)

A 30 minute test, informal, designed to assess skill in capitalization, punctuation, sentence writing, and paragraph writing. Students are asked to do corrections. Can be given by teachers or specialists.

Test of Written Language (TOWL) (Grades 2 to 8)

A 20 minute test, administered by teachers or specialists. Measures word usage, style, spelling, vocabulary, and maturity of theme development. Grade equivalents and scaled scores are available.

Appendix C

Sample Individual Program Plans

Sample — General Service Plan

Name: _____ Birthdate: _____ Age: _____ School: _____ Grade: _____

Date of Entry into Program: _____ Name of Parent(s): _____

Summary of Present Levels of Student Performance:

Program Model: _____ Hrs./Wk. _____ Entry: _____

Periodic Reviews: _____ Special Education: _____

Special Education: _____

NOTE: Insert areas that apply to the individual student.

A. Curriculum Areas

Subject	Placement/ Teacher Responsible	Curriculum Goals and/or Modifications	Review Date (Month-Year)	Comments
1. Living/Vocational Skills - -				
2. Communications/Language Arts - -				
3. Computation/Mathematics				
4. Social Studies				
5. Science				
6. Art				
7. Music				
8. Physical Education				
9. Other				

B. Support Program

NOTE: Insert areas that apply to the individual student.

Subject	Placement/ Teacher Responsible	Curriculum Goals and/or Modifications	Review Date (Month-Year)	Comments
1. Counselling 2. Co-curricular Activities 3. Behavior Management 4. Speech Therapy 5. Occupational Therapy 6. Physiotherapy 7. Medical Treatment 8. In-Home Program 9. Parent Education 10. Other				

General Service Plan Committee:

Special Class Teacher: _____

Parent/Guardian: _____

Classroom Teacher: _____

Student/Services: _____

Principal: _____

Other: _____

Note: Signatures indicate only that you are familiar with the goals.

Sample — Implementation/Instructional Plan

Name of Student: _____

Program Goal: _____

Objective(s) and Criterion Level	Materials, Strategies, and/or Resources	Date Started	Date Reviewed	Evaluative Comments

Individual Education Plan

Initial IEP/Program Change

Review of IEP (date): _____

Supplementary Service(s)

Triannual IEP

Name		District	Date
Birthdate	Principal Administrative Unit		School Grade or Level Placement

After discussing educational alternatives, the Planning Committee makes the following recommendations:

I. Educational Alternative

Return to district for placement

Special Day class: Specify County program and school _____

Transfer from parallel program: From _____

Placement changed from one county-operated program to another, indicate: _____

from _____ to _____

Extent of participation in regular class activities or with other regular class pupils: _____

Individual Instruction: (Describe) _____

Other: (Specify) _____

Age of Enrollment*	Projected Duration of Placement	Date of Review of Educational Plan
Last Date of Enrollment	Reason for Termination (Include placement recommendations as appropriate)	

II. Other Special Education Services to be provided by County. Eligibility has been determined:

Adapted Physical Education... From _____ To _____

Remedial Language/Speech/Hearing... From _____ To _____

Estimate frequency of service _____

_____ From _____ To _____

_____ From _____ To _____

_____ From _____ To _____

_____ From _____ To _____

III. Justification for Educational Alternative(s) and Service(s) Selected

Include a summary of handicapping condition(s), list alternatives discussed and rejected.

Individual Education Plan (continued)

IV. General Comments

Include specific alternative means for a secondary pupil to meet graduation proficiency standards.
Include provisions for return to regular education and career education as appropriate.

V. It is the professional judgement of this committee that the recommendations are based on adequate assessment data and are appropriate to the implementation of the Individual Education Plan. For enrollment pupils, the undersigned assume responsibility for implementation and monitoring of the individual pupil's plan as specified.

Administrator**	Date	School Nurse	Date
Special Education Teacher	Date	Program Specialist	Date
School Psychologist	Date	Audiologist/Physician/Other	Date
Language and Speech Specialist	Date	District Representative	Date
Interpreter/Other	Date	Other (Specify)	Date
Teacher Specialist (Specify)	Date	Other (Specify)	Date

* Dissenting Member: Print name, asterisk*, and attach rationale including specific recommendations.
** Must be in compliance with CAC title 5 ND education code.

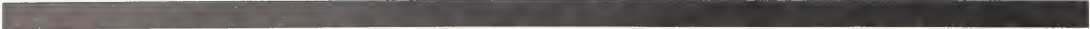
VI. Parent/Pupil Participation
Rights/Notifications

Check below to verify that parent has been given or will be sent the following:

- ☐ Individual educational plan/appeal procedures (see reverse side of this form)
- ☐ parent rights and procedural safeguards signed copy to be in pupil file (annual notice)
- ☐ Meeting held at parent's request without advance written notice

Signature of parent, legal guardian, or person acting as parent indicates participation, not necessarily agreement.

Signature of Parent, Legal Guardian, or Person Acting as parent	Signature of Pupil	Date
Date		
The following documents efforts to contact parents. (Specify dates, person(s) making contact, comments)		



Individual Education Plan (continued)

I, the undersigned parent, legal guardian, or person acting as parent give permission for implementation of the IEP and placement/service(s) as outlined.

Signature of Parent, Legal Guardian, or Person Acting as Parent	Date
---	------

Other agency services are to be provided as noted below:

Services	Freq.	Date		Agency	Contract	Signature of Agency Representative
		From	To			
Transportation	Daily			-----	X	-----

Comments regarding above service(s) (Include special transportation provisions)

Individual Education Plan

Name of Pupil: _____

Birthdate:

Date:

Note levels of educational performance in areas relating to special needs. Such data should include strengths and weaknesses (i.e., academic, social-adaptive, psycho-motor, pre-vocational, self-help, language, intellectual, medical)

List annual goals and short-term objectives. Include measurement and relate to performance levels.

Goal Number

Service
Provided

		Goal(s)	Objective(s)	
		Goal(s)	Objective(s)	
		Goal(s)	Objective(s)	

Note: A pupil's individual program includes all areas of the curriculum appropriate to his or her level of functioning.

The above goals and objectives are written in priority areas of instruction to ameliorate the effects of the handicapping condition(s).

Adapted from Los Angeles County Schools Special Education Division. Reprinted with the permission of the Los Angeles School District Special Education Division.

Individual Education Plan

School Name: _____

Student's Name: _____ Date of Birth: _____

Teacher(s): _____

Parents (Guardian): _____ Telephone: _____

Home Address: _____

A. Background information on current functioning level including M.A. and achievement in areas such as self-help, social, readiness, mathematics, and reading. What does the child bring to the learning situation?

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page or a sheet of stationery. There is no handwriting or other markings on the page.

(Please note any physical handicaps.)

B. Long-Term Goal Statement and Type of Program. What do we hope to accomplish?

What type of program will serve to accomplish the above goal?

C. What special services are needed?

D. Specific Short-Term Areas of Concentration.

Area	Specific Short-Term Goals	Resources and Who Is Responsible

E. Date for follow-up is _____

Who is responsible for monitoring? _____

Who is responsible for arranging follow-up meeting? _____

Who is parental liaison? _____

F. Effective _____, _____ will be placed
Date Pupil's Name

in _____. Where applicable, the following subjects
will be completed in Grade _____.

Subject: _____

Parent Signature (Opt.) _____

Teacher of Grade _____ Signature _____
(Where Applicable)

Special Teacher's Signature _____

Principal's Signature _____

Counsellor's Signature (Opt.) _____

Coordinator's Signature (Opt.) _____

Dated _____

Appendix D

Sample Cloze Passage

Here Comes the Robins!

The first robins to come north are males. How can we be sure? It is a robin rule! The old _____ robins must _____ back first. They get _____ choice of good places for a _____.

Like all birds, robins live by _____ that are born into _____. They learn little from other _____. And they don't need _____ think for themselves.

How _____ robins know when it is _____ to go back north?

They seem to _____ by how long daylight lasts. In late winter, _____ begin to last _____ each day. When the light lasts long enough, robins start _____.

They fly by day, in large _____. Each year they follow the _____ flyway, or pathway through the air. For most _____, the flyway is along the Mississippi River.

At first, they _____ only a few miles a day. They stop _____ in the fields of the South, to eat _____. Later, they seem in a hurry. Then they fly _____ than 100 miles a day. Some are _____ as far as Alaska.

One day in March, each robin _____ east or west from the Mississippi _____. He flies straight _____ his old home. It may be a tree in a backyard.

The _____ males go to the places where they raised families the year _____. The young _____, coming next, must find new _____. They were babies last year. This year, they will raise _____ of their own.

The young birds fight for the best _____ places. Each wants as _____ land as he can get. When he has a place, he sings all _____ to keep other _____ away from it.

Birds of many _____ do this. But the robins have one rule all their own: All night, _____ to the secret robin roost!

The _____ is out of sight, in leafy trees. As many as 100 male robins sleep in one roost.

Appendix E

Sample Referral Form

Confidential

School Name
Referral Form for Educational-Psychological Services

Pupil's Name: _____ **Date of Birth:** _____ **Sex:** _____

Teacher's Name: _____ **Grade:** _____ **Date of Referral:** _____

Parent's Name: _____ **Address:** _____

Home Telephone: _____

Please give a brief descriptive statement of the reason for referral.

Please complete the following:

Did child attend other schools? (comment) _____

Grades Repeated _____

Special Placement (if any) _____

Attendance (regular, irregular, and why) _____

Parental Support (briefly comment) _____

Student Attitude (briefly comment) _____

Please check any of the following that may apply.

- _____ Speech Concern
- _____ Hearing Concern
- _____ Vision Concern
- _____ Physical Concern
- _____ Marked Behavioral Change

Any comments on above checklist:

Please provide the following information:

Typical Reading Score _____

Typical Mathematics Score _____

Any IQ information available (if yes, please give details such as test name, date administered, and results)

Any other information such as Public Health Nurse Report, achievement test information (if yes, please give brief summary content).

Is this child being seen or has been seen by anyone else either inside or outside the school system (if yes, comment).

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

Date received by
Counsellor-Educational Psychologist Coordinator

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Glossary

Glossary

affect - emotion, mood, temperament.

algorithm - step by step procedure for solving a problem or accomplishing some end.

anecdotal record - a record of casually observed events that seem to the reporter to have possible significance.

assertiveness - a way of responding that covers any socially acceptable expression of personal rights and feelings; the demanding of one's rights, the insistence on being treated with fairness; spontaneous expression of one's likes and dislikes; being open and frank and avoiding bottling up one's emotions.

attributional retraining - the retraining of ascribing causes for outcomes. For example, having a child learn to attribute success to effort rather than to luck.

body image - the picture of representation one has of his or her own body at rest or in motion at any moment. It is derived from internal sensations, postural changes, contact with outside objects and people, emotional experiences, and fantasies.

cloze procedure - a technique used in testing, teaching reading comprehension, and determining readability. It involves deletion of words from the text and leaving blank spaces. Measurement is made by rating the number of blanks that can be correctly filled.

cognitive - pertaining to processes whereby an organism becomes aware or obtains knowledge of an object. It includes perceiving, recognizing, conceiving, judging, and reasoning.

cognitive behavior modification - a training approach that emphasizes teaching the individual to control his or her own thought processes; often used with learning disabled children who are in need of an educational approach that stresses self-initiative and the use of learning strategies.

congruence - the quality or state of agreeing or coinciding.

contextual errors - errors that occur by guessing at reading a word on the basis of its appearance in a sentence, and on the basis of one's personal experience and background. These errors in reading are called confabulation, since a substitute word is read in place of the actual word.

criterion-referenced test - a procedure used to determine a child's level of achievement; when this is established, a criterion or goal is set to fix a level at which the child should be achieving.

cursive writing - writing in which letters are joined so that a word can be written without lifting the pen.

decoding - the ability to identify sound value (phonemes) of the printed symbol (graphemes); (i.e., being able to look at the printed symbol "cart" and to pronounce the word "cart").

empathy - the apprehension of the state of mind of another person without feeling (as in sympathy) what the other feels. The attitude in empathy is one of acceptance and understanding; an implicit, "I understand how you feel".

encoding - the analysis and conversion of oral language into representative written symbols.

etiology - the study of causes or origins, especially of a disease.

evoked spontaneous level - an oral language response that is requested by a child on presentation of a picture. The actual verbal response that is elicited, given a visual stimulus.

formative evaluation - involves the ongoing evaluation of a program in progress wherein feedback is usually given during the process.

generalization - (1) in concept formation, problem-solving, and transfer of training, the detection by the learner of a characteristic or principle common to a class of objects or events, or problems; (2) in conditioning, the principle that once a conditioned response has been established for a given stimulus, other similar stimuli will also evoke that response.

heterogeneous - characterizing any group of items that show marked dissimilarity in a quality or attribute.

homogeneous - characterizing any group of items that show marked likeness in a quality or attribute.

holistic - pertaining to the doctrine of holism, that a living being has properties which pertain to the whole rather than to its constituent parts, and to the dynamics of a living whole which cannot be explained as a result of independent elements.

kinesthetic - referring to the sense that yields knowledge of the movements of the body or its several members.

manipulation of extrinsics - the manipulation of external rewards offering money or praise for mastering a learning task. As opposed to intrinsic — the rewarding experience of learning itself.

match-to-sample - a situation where a child is provided with a group of items or words from which he or she must choose one that matches a sample provided.

metacognitive skills - those abilities a person uses to know his or her own cognitive processes. Metacognition refers to one's understanding of what strategies are available for learning and which strategies are best suited in what situations.

norm-referenced - referring to a test that is scored by comparing to an average or standard performance or specified conditions.

passive/aggressive response - responses of a person who reacts to difficulties either by indecisiveness and clinging to others for help, or by irritability, temper tantrums, and misdirected destructiveness or obstructionism.

percentile rank - a rank indicating a score below which that percentage of individuals scored. For example, a percentile rank of 10 indicates that 10% of those individuals in a normative sample, or those who have taken the test, scored below that rank.

perceptual motor skills - skills pertaining to ability and coordinating perceptions with motor activities. The channels of perception include visual, auditory, tactual, and kinesthetic.

perseveration - the tendency to continue to respond to a stimulus after the stimulus has been removed or is no longer appropriate; lack of impulse and control of a motor or verbal act; for example, an individual may repeat the words over and over again.

personal causation training - training programs or techniques emphasizing awareness of personal actions or behaviors. Recognition of control of one's behavior in affecting change.

post-test - a test to determine performance after the administration of an experimental variable.

pre-test - a test given to determine some kind of performance (individual or group) in advance of administration of training or of some experimental condition — the pre-test scores subtracted from the post experiment (post-test) scores yield a measure of the effect of the experimental condition, if certain conditions are met.


reflective - reflective children take a greater amount of time to formulate and deliberate various hypotheses available to them before making a decision. They tend to make effective decisions, as opposed to impulsive children who respond quickly in situations, often resulting in inappropriate responses.

reliability - the complex property of a series of observations, of a measuring instrument, or of the entire measuring process, that makes possible the obtaining of similar results upon repetition; the degree to which such similar results may be predicted; the degree to which measurement is free from random influence.

self-concept - a person's view of self; the fullest description of himself or herself of which a person is capable at any given time.

self-instructional training - a type of cognitive behavior modification technique that requires the individual to talk aloud and then to himself or herself as the problems are being solved.

situational gestalt - perceiving the situation, social or personal, as an integrated whole, not merely parts. Being able to recognize the total social context of a particular event or situation.



standard deviation - a measure of variation of a group of scores or values; the square root of the mean of the amount by which each case departs from the mean of all cases.

standard error scoring - the deviation of the difference between an estimate of a score and the true value; bounding a score (e.g., 7 ± 2) with its error estimate.

summative evaluation - an evaluation with an emphasis on the outcomes of a program or an implementation of provisions.

systems-wide - the delivery of services across all systems. Delivery systems include the various ways of offering educational services to children; for example, self-contained classes, resource rooms, regular classrooms, etc.

validity - the degree to which a test measures what it purports to measure; also the degree to which test items are representative of the knowledge, skills, or attitudes supposed to be learned in a given course of study.

